

develop

The international monthly for games programmers, artists, musicians and producers



Arts attack

How Fiona Sperry plans to put EA's UK studios back on the map...

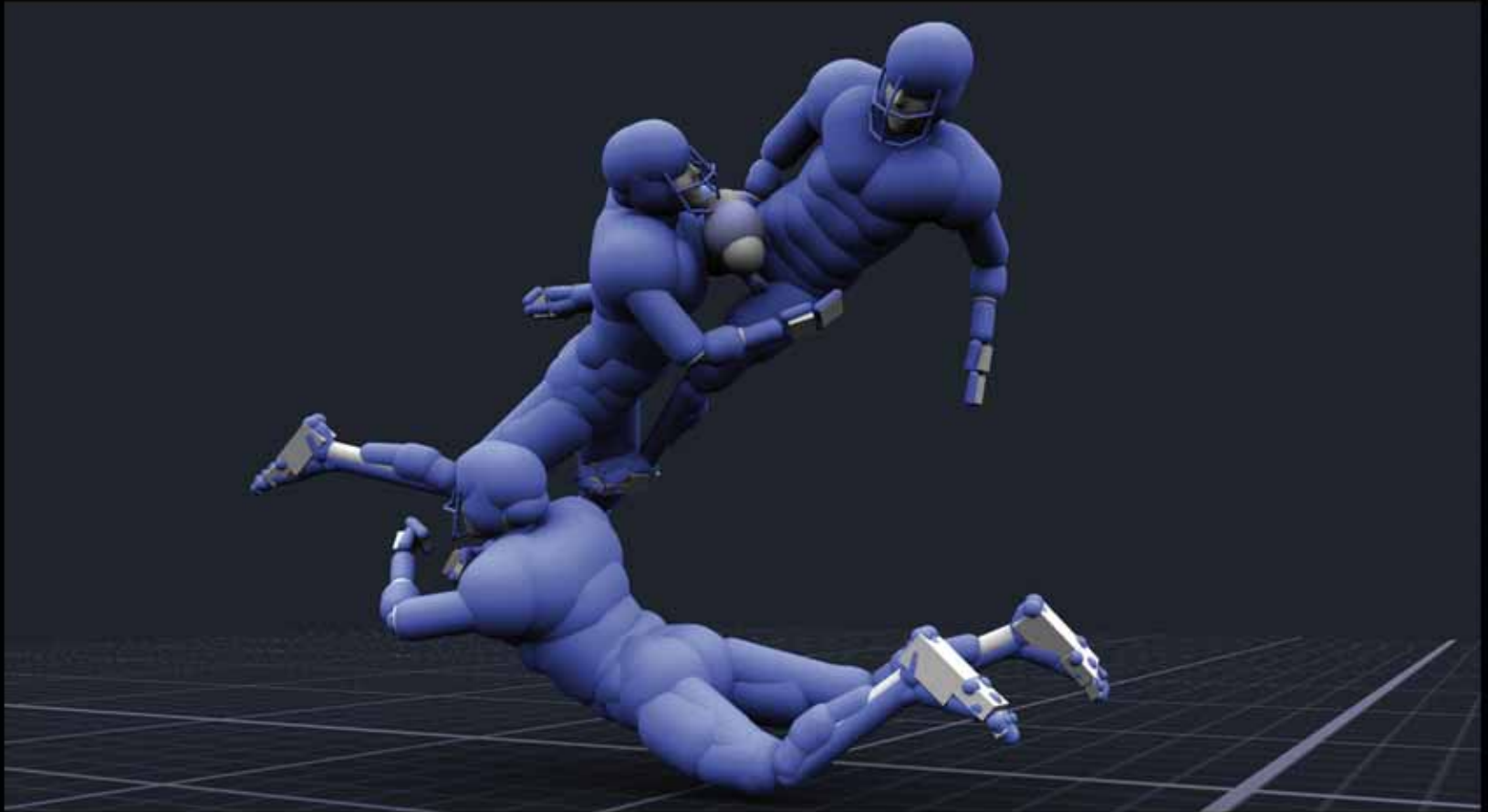
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Contents

● 24: FIONA'S FOCUS



■ **Fiona Sperry takes charge of EA UK Studios – and there are changes afoot...**

● 29: FREE MONEY?



■ **The In-Game Advertising Revolution: Is it truly worth it?**

● 48: SELL YOUR STUDIO



■ **Our legal eagle's advice on selling up, if that's the next planned move for your studio**

● 65: MOBILE



● 79: DIRECTORY



NEWS

5-12

Studio changes around the world; Top marks for games courses; Develop Awards finalists revealed; Torc changes to Instinct and hires Gamble; LucasArts does a UK IP trolleydash; and the latest on the Develop In Brighton conference

● 11 **Big guns in Brighton**

ATI, Microsoft and IGDA join the Develop In Brighton roster

● 14-16 **Opinions**

Nick Gibson on why the City really does understand games; Bennallack talks new controllers

● 16 **Profile: Gusto Games**

From nothing to *Champ Man* in three years. Pretty good going...

● 22 **Emerging stats**

This month's key release: Emergent's new Metrics system

● 35 **Card tricks**

A guide to the latest 3D hardware available for workstations

● 36 **Perfect simulation**

From flight sims to rollercoasters, what makes the best sim title?

● 52 **Tutorial: Loose threads**

More from Intel on how to get the best from multi-core processors

REGULARS

● Art	38
● Audio	40
● Mobile	41
● Design	43
● Coding	44
● Directory	55

On the bright side



It's very easy for people to be negative about games. And developers, of course, do their fair share of bellyaching.

But at last month's E3, the mood amongst those attending developers I spoke to couldn't have

been more upbeat.

Sure, studios – especially the American ones – are starting to fight harder for those contract jobs with IP holders despite the spoken backing of new IP (work for hire is where the regular money is, after all), but on the whole this sector is heading into a great period. Games have reached a point where those who want to milk hardware for all its worth can (provided they can get the 100-odd staff to make that one game) while there are opportunities aplenty for those looking to do something different.

From the Ninja Theory game taking pride of place on the Sony stand through to the Outerlight team (makers of mod-turned-full game *The Ship*) priding their place as part of the Scottish pavillion – everyone seemingly has substance to smile about.

You can also feel the upbeat mood at the EA UK studios, where new boss Fiona Sperry is urging in an era of focus and creativity.

Hearing that company specifically turn around and herald new ideas – as it did repeatedly at E3 – is just more good news for the very ethos of games development, and should serve as another reason why those who succeed in this sector really do so because of their passion for it.

This is something that has been mentioned in *Develop* before, and it's been most clear to me of late due to the *Develop* Awards – the finalists for which, have now been revealed. The list on page seven is just further proof of how creatively excellent this industry is – something I hope you agree no one can moan about.

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Think outside your box...

The custom-built location deep in the English countryside, the golden 20-year company heritage, the backing and benefits of Microsoft Game Studios, the chance to apply your talents to major Xbox 360 titles... what's not to like about this opportunity to sign up with Rare?

3D Graphic Engineers

Requiring good all-round abilities in modelling, animating and designing characters and objects. Successful applicants will use Maya and Zbrush on high-end PC hardware to create technically adept and visually stunning models.

Applicants should be well versed in all aspects of next-generation shader technology, and bring strong enthusiasm to their work. High proficiency with polygonal modelling techniques and their suitability for real-time environments is crucial; good understanding of the technical possibilities of next-generation console hardware is also important.

Background Graphic Engineers

Must be well versed in modelling, lighting and composition to enable cutting-edge creation of environments and game worlds. Creativity and passion plus strong technical and artistic abilities are vital, with an emphasis on layout and landscape studies.

Applicants must be proficient with next-generation modelling and shading techniques, and capable of handling large polygonal environments alone. Experience with normal mapping, real-time displacement mapping and advanced viewport technology is important. Successful applicants will be handed large areas of gameplay geometry to stylistically interpret and beautify with emphasis placed on creating a super-high detail, realistic, and technically outstanding universe.



Microsoft
game studios

Application deadline 29/06/06
Salary band £18-£30,000 DOE

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Axis all areas: global studio shifts

A busy month for development as Rebellion grows and new studios open globally...

The world of development will never stop spinning, but the past month has seen some direction switches for teams all over the world with key acquisitions and new studio openings – plus a clear push towards production in cheaper off-shore territories.

Grabbing the biggest headlines at press time was Rebellion's reported acquisitions of both Core from Eidos and Strangelite from Empire, a move that would turn the already large company into a multi-site one overnight with over 250 staff. As we go to press, Rebellion was unable to confirm the deal, but Strangelite's own website corroborated its part in the acquisition.

While Eidos and Empire look set to sell off some development assets, US publishers are opening new studios – Activision will have a team placed in the Dreamworks film studio, THQ is the first to benefit from Atari's studio sell-off with the acquisition of Paradigm, while Take 2's 2K Games brand will start a team in Shanghai. Although at the same time, Take 2 also last month closed the Vienna branch of Rockstar Games.

Also, other reports suggest that while Eidos has lost its Core, the publisher will open a new studio in Sweden.

At E3, Rebellion CEO Jason Kingsley was upbeat, rebuffing Peter Molyneux's suggestion in last month's *Develop* that independents will go extinct.

"Sure, for some it's a difficult time, but you have to think of this like being in a fight, and knowing when to swing a punch; being in our position beats being thumped in the face by a bigger bloke. There is definitely a place for an indie developer in the market," he told *Develop*.

And at a time when new teams in London (Media Molecule), Ireland (Cellion) and India (FXLab) are parading intentions to grow (we've profiled these stories and more on the right), it seems he's completely correct.

■ www.developmag.com

AS THE WORLD TURNS



MANCHESTER, UK

Announced by the studio itself on its company website, Strangelite is now part of the Rebellion empire rather than the publisher Empire. Founded in 2001, the studio had created its own in-house engine in 2003 when its then owner scored the licence to *Starship Troopers*. ■ www.Strangelite.com



DERBY, UK

Although not yet official – but at the time of going to press insiders says it's very much a done deal – Rebellion's acquisition of the Core Design team will give it access to the majority of the original group behind Tomb Raider. ■ www.core-design.com



GLENDALE, CALIFORNIA, USA

Who said that the film and game convergence was dead? Certainly not Activision – it's planning to open a dedicated 'Dream team' studio at the Dreamworks campus to make best use of its multi-year licensing deal over the film company's new movies. ■ www.activision.com



CARROLLTON, TEXAS, USA

The sell-off continues for ailing Atari – it has sold its Paradigm studio, and the *Stuntman* franchise the team was working on for next-gen platforms, to THQ for an undisclosed amount. The team previously worked on *Terminator* titles for Atari. ■ www.pe-i.com



SHANGHAI

Ramping up to create the Chinese-language version of Sid Meier's *Civilization: IV*, Take 2 has announced it's opening a new development studio in Shanghai. In the long term, new IP and co-development deals with other 2K studios are planned, while the outfit will also serve as a hub for sales, marketing and outsourcing. ■ www.take2games.com



VIENNA, AUSTRIA

Despite a successful back catalogue including console versions of *Max Payne 2* and the Xbox *Grand Theft Auto: Double Pack*, Rockstar's central European conversion house has been shut. The company was established in 1993 as Neo Software, was purchased by Take 2 in February 2001 and then joined the Rockstar family in 2003. Take 2 blamed the challenging "transition" environment for the closure – Rockstar's not the only part of its business to suffer, as Take 2 also recently closed its Indie Built Studio in Salt Lake City, US. ■ www.take2games.com



HYDERABAD, INDIA

Indian development and outsourcing company FX Labs has announced its intentions to rule the sector in India, with a recent \$3m funding injection set to help it fulfil this aim. What could set the team apart from the region's comparable companies is its remit: while the territory has a number of mobile and localisation outfits, none are dedicated console developers, which is where FX plans to make its mark. ■ www.fxlabs.com



LONDON, UK

Former Lionhead man and *Rag Doll Kung Fu* creator (and *Develop* Award nominee) Mark Healey has formed a new company, Media Molecule. The team includes other former Lionhead staff that had worked on the likes of *Black & White* and *Fable*. The team is reportedly hard at work on their first project. ■ www.mediamolecule.com



AUSTIN, TEXAS, USA

The US team owned by Irish studio Star Cave, Cellion Studios recently announced a surprising switch in allegiance, saying that it would become a Nintendo-only developer. The team plans to focus on making games for the Nintendo DS and will be porting GameCube projects to the Wii. The company hopes its offer will be a big draw for those publishers looking to put their properties out on those two new platforms. ■ www.cellionstudios.com

Game universities get top marks

First four universities given the nod by Skillset's quality-rewarding kitemark grading

With dozens of computer game-related university courses now available in the UK, Skillset, the Sector Skills Council for audio visual industries, has announced the first wave of undergraduate courses to gain its official accreditation.

Four courses from Wales and Scotland met the criteria (see 'The Accredited Courses').

"We believe this is the first instance globally of the games industry co-operating on a national level to support and enhance the development of its workforce," commented Ian Livingstone, product acquisitions director at Eidos, and chair of Skillset's Computer Games Skills Forum, which devised the accreditation system. He announced the first courses given the mark at a UK industry event held at E3.

"It identifies industry relevant courses which have demonstrated a commitment to teaching industry-

THE ACCREDITED COURSES

- BA (Honours) Computer Arts, University of Abertay Dundee
- BSc (Honours) Computer Games Technology, University of Abertay Dundee
- BSc (Honours) Computer Games Technology, University of Paisley
- HND/BA in Computer Animation, Glamorgan Centre for Art & Design Technology

"This is the first instance globally of the games industry co-operating on a national level to support and enhance the development of its workforce..."

Ian Livingstone, Eidos

relevant skills and enabling graduates to enter the workplace with the necessary confidence, skills and knowledge to succeed," Livingstone said.

"It's a massive step forward in maintaining the UK's position at the forefront of making games."

Kate O'Connor, Skillset's executive director of policy and development, also added: "The industry has wanted and needed an accreditation system for a long time. It will help shape the next generation of talent which will positively impact the economic growth of the sector."

Heavily emphasising core maths, programming of console hardware and basic art skills, as well as high-level expertise such as team-work and an understanding how the industry works, the accreditation process was carried out by representative from companies such as EA, Codemasters and Sony.

■ www.skillset.org

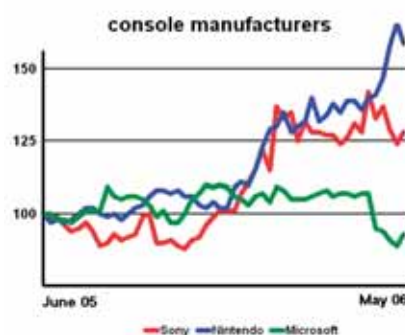
Good news for: Ubisoft

A judge in Montreal has backed Ubisoft's petition to block its former studio boss, Martin Tremblay, from starting in a similar position at Vivendi Games due to a non-compete clause in his original employment contract.

Bad news for: Vivendi Games

Tremblay's legal handcuffing (for now) stops him from taking the role as Vivendi's worldwide studio boss. Ironically, he was Ubisoft's most vocal defender in 2004 and 2005 when his then-employer battled EA on similar grounds.

TAKING STOCK: FORMAT HOLDERS



The post-E3 world has been driven by speculation about winners and losers, especially when it comes to the three console manufacturers. But taking a longer view than what occurred in May 2006, it's interesting to look back over the past 12 months to see the wider performance. Of course, with Sony and especially Microsoft both having significant interests outside of gaming, it would be foolish to pin this purely on next-gen anticipation, but in contrast, the 50 per cent increase of Nintendo stock driven by two main uplifts in late 2005 and May 2006 seems to suggest widespread market approval for Wii.

Vista's exclusive view?

It seems Microsoft is saving the big names for its next OS – according to reports both the DirectX 10 API and Bungie's new version of *Halo 2* (with a map editor and other extras) will be Vista-only releases. ATI and Nvidia are now thought to be rethinking their previous decisions to release DirectX10 compatible hardware.

■ www.microsoft.com

Nintendo goes Free...

Nintendo has named Freescale's Codewarrior as the official dev tool for the Wii. Kits being sent out will come bundled with the new Radix Studio tool, which Freescale says offers cost-effective production. Combined with the Wii's 'Cube-like environment, this could be another box ticked for a fast take-up of development for the format.

■ www.freescale.com

...Wii goes cheap

Cost-effective will also be a phrase applicable to the Nintendo Wii when it arrives this autumn for consumers. No doubt in a bid to diffuse the talk behind the PS3's £400+ price point, Nintendo has announced its console will be no more expensive than Y25,000 (about £125). Current reports say an October release is likely.

■ www.nintendo.com

Casual dress in Seattle

Casualty is once again throwing its weight behind a casual games conference, with Casualty Seattle taking place on June 27th to 29th. Mobile sessions have been added to the bill given the positive response to the comparable sessions at Casualty Europe, and the growth of relaxed instant-action titles in the category.

■ www.casualty.org

Serious engine revs up

Sunderland-based Caspian Learning has launched *Thinking Worlds*, a tool for creating educational and serious games applications. The free six-month beta trial is designed to engage a variety of users, with an online community in place so creators using the *Thinking Worlds* software can share their games and ideas.

■ thinkingworlds.com

Develop Awards '06: Finalists

Top development talent from the UK and Europe go head-to-head as finalists revealed...

60 of the top games companies working in or serving the UK and European games development sector are in the running as finalists for 2006's *Develop* Industry Excellence Awards.

Three new companies, a raft of handheld games makers, tools providers, hardware innovators and development legends whose achievements have shaped both their careers and the industry are just a few of those under consideration.

Plus, this year the evening's top award – The Grand Prix – is to be decided by the judges from a revealed shortlist of Relentless, Bizarre Creations and Rare.

The winners of all 18 awards will be revealed at a ceremony on Wednesday July 12th, part of the *Develop* In Brighton conference and expo, which runs from Tuesday July 11th to Thursday July 13th.

More information on the awards, the finalists and award categories can be found in the special guide included with this issue.



2005: The team from *Traveller's Tales*, winners of Most Improved Studio, Independent Studio and Best Use of a Licence



DEVELOP AWARDS - KEY FACTS
When Wednesday, July 12th
Where Oxford Suite, Hilton Metropole Hotel, Brighton
Prices Tables: £1975 (£1750 – IGDA/TIGA Members) Tickets: £199 (£179 – IGDA/TIGA Members)
To book contact Kathryn.Humphrey@bhpr.co.uk (01462 456780)

THE DEALS

Oh-oh-\$70m

Activision has acquired the *Bond* licence, jetissoned by EA, for a reported \$70m.

Heroic acquisition

Activision has also bought *Guitar Hero* publisher Red Octane.

Ubisoft gets Lost

A game of TV show *Lost* will be developed by Ubisoft Montreal.

Sam & Max 'tapped

US online distributor Gametap has signed up exclusive rights to Telltale's episodic *Sam & Max*.

Changing Points

Kuju's forthcoming *Rail Simulator* for EA will support Ageia's PhysX physics chip.

Big Budget

Warner Bros production partner Legendary Pictures is making a live-action film based on Blizzard's *Warcraft*.

Revved to go

Take 2 has picked up comic book movie licence *Ghost Rider*. Climax is developing the game.

Swede deal

THQ has signed up Swedish studio SimBin's new *GTR* for Xbox 360.

Codemasters' storm

Russian studio KDV Games' PC RTS *Maelstrom* will be published by Codemasters.

Alan's awakening

Finnish team Remedy Entertainment has signed an exclusivity deal with Microsoft that will see its *Alan Wake* title released on 360 and PC.

GTA on 360 in 2007

Microsoft has also cracked the Rockstar-Sony pact – *GTA IV* will hit both PS3 and 360 in '07.

Nokia dials Gameloft

Gameloft has signed a deal with Nokia that will see its games on 2007's new N-Gage platform.

THE DEVELOP INDUSTRY EXCELLENCE AWARDS 2006 FINALISTS

NEW STUDIO

- Bigbig
- Ankama Games
- Rocksteady

MOST IMPROVED STUDIO

- Rebellion
- Kuju
- Beautiful Game Studios

MOBILE GAMES STUDIO

- Glu/iPhone
- Sumea
- Gameloft
- Ideaworks 3D
- Mr Goodliving
- IOMO/Infospace

HANDHELD GAMES STUDIO

- Bigbig
- Rockstar Leeds
- Team 17
- Sumo Digital
- Razorback
- Sports Interactive

NEW CONSOLE IP

- Buzz (SCEE External/Relentless)
- Pursuit Force (Bigbig)
- Black (Criterion)
- Kameo (Rare)
- Spartan: Total Warrior (Creative Assembly)

NEW PC IP

- *The Movies* (Lionhead)
- *Fahrenheit* (Quantic Dream)
- *Sniper Elite* (Rebellion)
- *Rag Doll Kung Fu* (Mark Healey)

BEST USE OF A LICENCE

- *Peter Jackson's King Kong: The Official Game of the Movie* (Ubisoft Montpellier)
- *The Chronicles of Narnia: The Lion, The Witch and The Wardrobe* (Traveller's Tales)
- *24: The Game* (SCEE Cambridge)
- *Rogue Trooper* (Rebellion)
- *Plug 'n' Play TV Games* (HotGen)
- *Wallace & Gromit: The Curse of the Were-Rabbit* (Frontier)

BEST USE OF ONLINE

- *Rare (Perfect Dark Zero)*
- Bizarre Creations (*Geometry Wars: Retro Evolved*)
- Introversion (*Darwinia* via Steam)
- SCEE Liverpool Studio (*WipeOut Pure* downloads)

ART & SOUND

- *Climax (Moto GP '06)*
- *Rare (Kameo)*
- *Criterion (Burnout Revenge/Black)*

- Bizarre Creations (*Project Gotham Racing 3/Geometry Wars: Retro Evolved*)
- Deep Red (*Tycoon City: New York*)

INNOVATION

- SCEE External Development/Relentless (*Buzz controllers*)
- Fuse Games (*Metrod Prime Pinball* rumble pack)
- Mark Healey (*Rag Doll Kung Fu*)
- In2Games (*Real World Golf*)
- Broadsword (*Dance Factory*)

TOOLS PROVIDER

- Havok
- Kynogon
- Autodesk
- Epic Games
- SN Systems
- Natural Motion

SERVICES AND OUTSOURCING

- Partnertrans
- Image Metrics
- Escape Studios
- Side UK
- Audio Motion
- Centroid

RECRUITMENT COMPANY

- Amicus
- Gamesrecruit
- OPM
- Aardvark Swift
- Datascope

PUBLISHING HERO

- Microsoft (Xbox Live Arcade)
- Sega
- Codemasters
- SCEE
- LucasArts

IN-HOUSE DEVELOPMENT TEAM

- Rockstar Leeds
- Criterion
- Rare
- Sports Interactive
- Creative Assembly

INDEPENDENT DEVELOPER

- Relentless
- Sumo Digital
- Kuju
- Rebellion
- Traveller's Tales

DEVELOPMENT LEGEND

- Richard and David Darling
- Charles Cecil
- Michel Ancel

Instinct takes a Gamble

Tools company Instinct Technology is hoping to grow, and its first move has been to appoint former Microsoft and THQ man Mike Gamble to the role of business development director.

Gamble will be responsible for pushing the company's *Instinct Studio* development suite (formerly called *Torc*) from beta status to full commercial release, while also forging deals with studios and other companies.

"Every so often, a company emerges with just the right product and I'm convinced that



there has never been a greater need for high-quality tools at a competitive price – and that's exactly what Instinct delivers."

Instinct Studio is aiming to be a 'one-fit-suits-all'-style software

this is one of those occasions," says Gamble. "With budgets under ever-increasing pressure,

suite for studios. It marries a variety of tools, such as resource management, run-time editable components and real-time previewing with a toolset that features real-time, per-pixel lighting, normal mapping, specular highlighting and volumetric stencil-buffer shadowing. The system has also been designed to, of course, integrate with a variety of other middleware solutions.

Instinct will debut the software at the Develop Conference and Expo this July.

■ www.instinct-tech.com

Lucas gets Art from UK IPs

US stalwart boosts its portfolio with a little help from four UK developers

A clutch of new games from UK studios are forming the bulk of the 2006 portfolio for a revitalised LucasArts – and the developer-publisher's VP of product development Peter Hirschmann says the company could sign up more games from Europe.

Kuju's PSP game *Traxion*, *Thrillville* from Frontier and, of course, Traveller's Tales' latest *Lego Star Wars* are the big releases from LucasArts this year that originate from UK teams, and the company has also signed up Natural Motion's *Euphoria* animation tool to power next year's *Indiana Jones* title.

It's quite a turnaround for LucasArts, which has been through a transition over the past few years. The company shed a large number of staff in a studio shake-up in 2003 and since then

farmed out the majority of its games to US companies, such as Pandemic and The Collective.

Those that remained internally started work on the company's plans for next-gen, which included a closer relationship with ILM, and the creation of teams dedicated to making new *Star Wars* and *Indiana Jones* games.

"We set out a strategy that went all the way to George [Lucas] for approval, that we wanted to focus on simulation-driven gameplay for next-generation titles," Hirschmann explained to *Develop* at E3.

"The horsepower, detail, HDR – everything you can do with next-gen was something we wanted to focus on, but make sure it wasn't like every other next-gen game, which just looks a little better. We took some big risks – the first was

with [Natural Motion's] *Euphoria* – but we haven't looked back."

LucasArts' plans aren't just on next-gen tech, however, as Hirschmann aims to get a slate of original games on the company's books.

"I did a big developer tour in September and I was blown away by where everyone was at, so many people are solid on what they have planned for next-gen," said Hirschmann.

"We've got a great presence in the UK with these titles – at any one time there are a handful of LucasArts people over in the UK at either Natural Motion, Kuju or Frontier. There's just so much great talent in the UK that it's really great to tap into that.

"And we're talking to others over there now."

■ www.lucasarts.com

LUCAS' UK QUARTET



Kuju Brighton's perhaps Wario Ware-inspired PSP game seems to be truly innovative with its host format – the levels take cues from MP3s stored on the MemoryStick



Confirmed in March but worth re-mentioning, Traveller's Tales went straight to the source for a publishing partner for the second of its *Lego Star Wars* games



Frontier takes the smarts it learnt from *Rollercoaster Tycoon* and then goes to the next level, with the open world template merged with a theme park for *Thrillville*



Natural Motion's new run-time animation engine *Euphoria* is being used in a number of game and film projects – for Lucas it's in *Indiana Jones*

On expenses

WHAT'S ON AND WHERE

Too many events to remember? Here's a handy planner. Our hot tip for the summer: Brighton...



Develop in Brighton

July 11th-13th

Hilton Metropole, Brighton

Price: Varies

developconference.com

A heavyweight event tuned to local sensibilities, taking place in an increasingly-popular city for UK studio talent, and which now includes the *Develop* Industry Excellence Awards. See pages 11-12 for more info on what's to come – and head to the website (above) for more details throughout June.

Develop Industry Excellence Awards

July 12th

Hilton Metropole, Brighton

www.developmag.com/excellence

Fourth year for our always sold-out awards ceremony, this year part of the *Develop* In Brighton Conference.

Sandbox Symposium

July 29th-30th

Boston

Price: From \$250

sandboxsymposium.org

The Siggraph organisers' new games-focused show, focusing on new emergent gameplay styles, and taking place before Siggraph proper.

SIGGRAPH 2006

July 30th - August 3rd

Boston

Price: From \$750

www.siggraph.org

Another outing for the yearly computer graphics and interactive show.

Edinburgh Interactive Entertainment Festival

August 21st-22nd

Edinburgh

Price: TBA

www.eief.co.uk

EIEF's fourth year sees it run with a streamlined conference offer designed to help the industry dovetail straight into...

Games Convention

August 23rd-27th

Leipzig, Germany

Price: TBA

gc-germany.de

Leipzig is fast-becoming Europe's biggest industry-wide event – no surprise given the popular consumer element and the fact that it represents a key place for publishers to make announcements.

Games Market Europe

September 6th-7th

Business Design Centre, London

Price: TBC

www.gamesmarket

europe.com

01462 477300

The trade event returns to London for its second year.

Tokyo Game Show 2006

September 22nd – 24th

Tokyo, Japan

Price: TBC

tgs.cesa.or.jp/English

Eyes on Japan for another week long mix of Japan-centric industry announcements.

London Games Week

(From October 2nd)

London

ELSPA, TIGA and BAFTA put on a series of events in the UK capital that will include:

TIGA Content Market

October 3rd-4th

www.tiga.org

GDC London

October 3rd-4th

BAFTA HQ, Piccadilly

London Games Summit

October 4th-5th

www.elspa.com

BAFTA Game Awards

Date TBC



evolution
studios

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stay in front of the competition?

are you someone who likes
to face challenges head on?

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Big guns target Brighton

ATI, Microsoft and IGDA aboard ● Event adds 'graphics day' ● Serious games on the menu

With just a month to go, the Develop In Brighton conference and expo is shaping up – and with companies like ATI aboard as sponsors, and Microsoft hosting new sessions, it's set to be a key event for the world's development industry.

The event's schedule has grown to include free to access seminars, an ATI graphics day, and the Develop Mobile conference – all alongside established events such as the *Develop* Industry Excellence Awards, the two days of conference session and expo, plus the GamesEdu conference, also taking place on the Friday.

The event takes place from Tuesday July 11th to Friday July 14th – the second week of July – at the Brighton Metropole Hotel.

Those wishing to attend should log on to www.developconference.com to register – early bird pricing closes in mid-June.

On this page and overleaf, we've profiled the latest confirmed sessions, details of involvement by the IGDA and a new Serious Games workshop.

■ www.developconference.com



■ Brighton Metropole Hotel, venue for this July's Develop In Brighton conference and expo

DAY-BY DAY

Develop In Brighton at-a-glance

Tuesday July 11th

- Develop Mobile (sponsored by Nokia)
- VIP Dinner
- Icebreaker Party

Wednesday July 12th

- Conference & Expo
- Develop Industry Excellence Awards

Thursday July 13th

- Conference & Expo
- Skillset Reception
- Exhibitor Party

Friday July 14th

- GamesEdu Conference
- ATI Graphics Day

DEVELOP MOBILE

This single-track mobile day runs on Tuesday, July 11th. Sessions and speakers confirmed as follows:

Why Mobile Is The New Handheld

Tim Closs, Ideaworks 3D

Why fragmentation is good

Kristian Segerstrale, Glu Mobile

A big screen superstar on the small screen:

Tomb Raider on mobile

Simon Protheroe, Eidos

Developing Mobile Games – Big Thrills, Small

Screens and Mass Audiences

Jami Laes, Digital Chocolate

Consumer research in mobile games

Paul Goode, Mmetric

The Next Wave of Handheld Games

Chris James, Pocket Gamer

Off-deck portals

Paul Munford, Player X/Monty's Gaming and

Wireless Outlook

ATI EXTENDS EVENT

On the Friday, July 14th, ATI will be flexing its muscle as a sponsor and host a dedicated graphics day which extends the conference's programme to four days.

THE LATEST CONFERENCE SESSIONS

Including newly confirmed talks from Microsoft, Nvidia, IGDA, SCE and SCEA...

Advance Programming Techniques on PlayStation Portable

Speaker: Igor Makaruks, Sony Computer Entertainment Europe

ARG: Immersive gaming for the mass market

Speaker: Adam Martin, MindCandy

Bridging the Uncanny Valley: Style versus Realism in future games

Steve Boxer, Susie Green, Sony Computer Entertainment Europe, Greg Sue, Relentless Software, Cumron Ashtiani, Kuju Entertainment

Developing with PSSG, a PlayStation 3 optimised cross platform engine

Richard Forster, Sony Computer Entertainment Europe

DirectX 10 for Techies

Speaker: Nick Thibieroz, ATI

Games design room 101: Four designers each consign a game design horror to the dustbin

Speaker: Mike Goldsmith, Future

Genre: Dirty word or developer's friend?

Speakers: Clive Fencott and Jo Clay, Strange Agency

Global Directions: A Holistic View of Game Development

Speaker: Jason Della Rocca, International Game Developers Association

Hacking Through the Jungle: Interactive Storytelling Made Easy and Profitable

Ernest Adams

New Techniques for Lighting: From Theory to Practical Implementation

Chris Doran, Geomerics

Optimize Your GPU with the Latest Nvidia Performance Tools

Raul Aguavivia, Nvidia

Profiling and Debugging Your Game with PIX on Xbox 360

Speaker: Bruce Dawson, Microsoft Game Technology Group

Shaders: The Sky is the Limit

Sébastien Dominé, Nvidia and Richard Stenson, Sony Computer Entertainment America

Working with Hollywood: The Storytelling Professionals

Speakers: Mark Green and Peter Edward, Sony Computer Entertainment Europe

Xbox Live: Now and in the Future

Speaker: Jeff Sullivan, Microsoft Game Technology Group



www.developconference.com

IGDA GETS INVOLVED

The **Independent Game Developers Association** has also thrown its hat into the Develop In Brighton ring. The organisation will be hosting a variety of free to attend group gatherings at their booth on the expo floor. The topics to be covered are: Academics, ARG Developers, Bloggers, Casual Game Developers, Community Leaders, Indies, Women and Writers.

The IGDA is also running a **full day workshop**, Game Not Over: Expanding the Market through Accessible Games, which will be run by Michelle Hinn, doctoral candidate at the University of Illinois, and Urbana-Champaign Chairperson of the IGDA Game Accessibility special interest group.

TAKING THINGS SERIOUSLY

Ben Sawyer, co-founder of Digitalmill, will be hosting a **half-day serious games tutorial** at the Develop In Brighton event.

Aided by the Games for Health project, Sawyer's workshop is designed to help developers and customers of serious games better understand the field.

In terms of take-away it's hoped that those attending will leave confident that they could launch a product into this fast growing field in the games development sector. And with publishers regularly absent from this category, leaving studios to broker their deals with companies looking to have a 'serious' games application produced, it's a market ripe with opportunity.

EXPONENTIAL

Running alongside the main two-day conference, the Develop In Brighton expo will see a variety of companies from across the games development sector show off their products, be on hand for meetings and make announcements. Exhibitors include:

- 3d Connexion
- Absolute Quality
- Alias
- amBX
- Animazoo
- ATI
- AudioMotion
- Autodesk

- Big World
- Bluegfx
- Develop
- Emergent Game Technologies
- Eutechnyx
- FireGL
- GameHorizon
- Eurogamer

- IGDA
- NaturalMotion
- Nokia
- Nvidia
- Perforce
- Philips
- Sapphire Technologies
- SN Systems

- SoftImage
- Sony Computer Entertainment
- Strange Agency
- Testronic Labs
- Torc/Instinct
- Southampton Solent University
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10 years of games in the city



MINIBIO

Nick Gibson is a director at Games Investor Consulting, providing corporate finance and strategy consulting services to the games, media and finance industries.

So the financial world doesn't understand the games world? Think again, says **Nick Gibson** – the City is smarter than many give it credit...

Whilst my company, Games Investor Consulting, has existed for only three years, I recently celebrated reaching ten years of working in and around the games industry. The other seven years were spent at technology investment bank Durlacher where I handled all things games and most things Internet-related. I would like to think that this has afforded me a relatively unique perspective on the interaction between the financial community and games industry, and I would like to use this month's column to make some observations on the last decade of this interaction and disabuse you of one popular misconception in particular: that, 'the City doesn't get the games industry'.

It is one of the most common refrains I hear when members of the games industry talk about the City and the wider financial community. It is occasionally uttered as an unconvincing form of defence by games company representatives after they have failed to raise money or float but, remarkably, is also presented to us by people with little or no experience of working with the investment community.

I would go so far as to suggest that the City actually understands considerably more about the games industry than the games industry thinks – and a hell of a lot more than games industry knows about the City.

And, unfortunately, what the City knows is that listed games companies in the UK during the last decade have, to put it bluntly, made for disastrous investments.

Since the start of 1996, 15 companies that derive some or all of their sales from games have been listed on either the LSE or its junior market, AIM. Of these, four companies have gone bust (Argonaut, Rage, Pure Entertainment and Inner Workings), another four have exited the games sector having tried but, ultimately, failed to create sustainable businesses within it (Akaei, Digital Animations, Bits and Zoo Digital) and three have been sold following serious trading under performance, profit warnings and share price collapses (Eidos, Warthog and

Gremlin). Of the four that remain, two are, at the time of writing, at or near their all-time share price lows (Kuju and Empire) following poor trading performances and, indeed, one of these, Empire, is currently negotiating its sale. That leaves just two companies (SCi and GAME Group) who could be considered as stock market successes although their ascents have hardly been smooth.

A great number of investors have lost all, or appreciably all, of their money investing in listed games companies. In fact, just under £203m was invested in the 11 companies that have disappeared whilst, from that group, the total consideration (i.e. sale value) for those that have been sold has amounted to less than half that. Canny investors could have made substantial gains by trading in and out of these stocks at the right time but as a sector overall, games has fared spectacularly badly.

The purpose of making these points is not to suggest that all listed games investments are to be avoided. I am simply explaining why games investment opportunities are more often than not viewed with scepticism by the City. Far from not understanding the games industry, many investors understand it too well. As such, for those companies contemplating either a listing or private equity investment, I would suggest a few golden rules should be observed:

- 1 Learn how the public/private equity markets work. Understand the expectations incumbent upon you as investees. Understand the aims of your investors.
- 2 Keep your investors informed. Sudden bad news can often result in adverse knee-jerk shareholder reactions out of proportion to the severity of the news.
- 3 Manage expectations conservatively. A common mistake by games companies is to present the market and investors with their best-case forecasts. Always aim to outperform market expectations by being conservative with forecasts.
- 4 Always tell the truth. Do not lie to investors and do not attempt to obfuscate the truth about your business. Small lies will lose you valuable investor allies, major lies will invite legal action.

■ www.gamesinvestor.com



■ 15 companies with games interests have been listed on the LSE or AIM since 1996, but only a handful are still around or still in games. So is it any wonder the City treats such investments with scepticism?

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Control yourself



New game control methods are all the rage, but the risks of reinventing the wheel are probably too great for most developers to take, argues **Owain Bennallack**, executive editor of Develop...

MINIBIO

Owain Bennallack, executive editor of *Develop*, edited the magazine from launch until its February 2006 issue. He has also worked at MCV and *Edge*, and has provided consultancy and evaluation services to several leading developers and publishers. He is also chairman of the Develop In Brighton Conference advisory board.

Ten years after the release of the N64, its analogue stick and *Mario 64*, games controllers are big news again.

With Miyamoto conducting an animated orchestra with a Wii controller at E3, games like *Big Brain Academy* on the DS being made practical by the stylus, and the likes of *Relentless' Buzz* on PS2 turning a simple quiz game into something people want to touch, the best way to enable players to control your game is no longer the only way.

Of course, it's not just developers who are grappling with this changing climate. Sony's DualShock motion sensing controller revelation at E3 has the Internet pundits in full furore mode, criticising everything from the lacklustre demo and the ditching of force feedback to Sony's apparently rushed dive for the bandwagon.

Has Sony got its controller right? Will consumers prefer the familiar nature of the DualShock to something more dangerously innovative? Or is the whole manoeuvre simply designed to spike Nintendo's guns? Time will tell, but its announcement doesn't make life any easier for games developers working out their own moves.

For a start, it's by no means guaranteed that motion sensing is 'the new 3D'. Wii's controllers are by all accounts inspiring to use, but not necessarily fully convincing. Everything from a lack of accuracy to the sheer physical effort involved raises question marks.

Physical effort is a very real issue – being weedy, I get sore arms from far shorter sessions of *Time Crisis* than I'd expect to spend with *Zelda*.

And while lots of games from the golden era of controllers – the arcades of the late 1970s and the '80s – were extremely engaging with their bespoke trackballs, steering wheels and throttles, you wouldn't want to play *Super Mario Bros.* on them.

As Microsoft's Peter Moore has pointed out, motion sensing isn't exactly new, and on PC its application has proved limited. What makes Wii different?

The answer of course is Nintendo. It's hard (though not impossible) to argue that with the DS, Nintendo is getting people to embrace new kinds of gameplay by throwing its weight and designs smarts fully behind games that use the touch-screen and stylus. Only by putting control in the spotlight is Nintendo forcing the new control method through.

Now it's the same with Wii.

Unlike Sony's almost apologetic approach, motion sensing is at the heart of Nintendo's next-gen strategy. Its hope is other consoles are made to look ordinary. The danger is gamers can't be bothered with the effort.

Finding yourself forced to play your favourite game in a new, inferior way is infuriating, outweighing any novelty factor. Remember the rash of weird and not so wonderful gizmos that tried to replace the FPS' mouse-and-keyboard combo on PC? Even if they offered a commensurate step-up in control (they usually didn't), you didn't want to be fragged 100 times getting the hang of them. Nobody wants to go back to Game School 101 for no good reason.

That's something Sony's approach militates against; you can guarantee most PlayStation 3 games won't bother with motion sensing at all. So should you?

Titles like *SingStar*, *EyeToy* *Buzz* and *Guitar Hero* have shown the public has an appetite for novelty. But those games are all simple affairs, and they use bespoke bits of plastic and silicon to get gamers around; it's more the

emergence of China as a super cheap manufacturer that has made such games viable, by mitigating the need to loss-lead the initial hardware, Virtual Boy-style. (In2Games' Gametrak has achieved success with *Real World Golf*, with further games to come, but the initial unit was not prohibitively expensive.)

Creating a 3D action/adventure that uses motion sensing (or the DS' stylus) is a different challenge altogether, and one I suspect Nintendo is best placed to tackle. The alternative – inventing games specifically to exploit the new control methods – is ideal, but far easier said than done. DS titles like the *Brain Training* games and *Nintendogs* occupy an interesting middle ground, but it's telling that the odd *Trauma Centre* aside, most touch-screen functionality is being embedded into traditional games such as *Star Fox DS* and *The Legend of Zelda: The Phantom Hourglass*.

Games that can genuinely be realised only by using the touch-screen will remain few and far between, even while playing with the DS reawakens old gamers touch-buds. Invigorating a console is the job of a platform holder, not an individual developer.

If I was making a PlayStation 3 game, then, I don't think Ken Kutaragi's controller demo would change my plans at all. We'll see how common that reaction is on the shelves in 12 months' time.

■ www.developmag.com



■ Make no mistake, the Wii introduces innovation and novelty to a market some see as stagnant – but are any studios other than those at Nintendo ready to take up the gauntlet and make best use of the controller?



sony computer entertainment europe

Programming positions at Sony (SCEE) Liverpool

For over 20 years, Studio Liverpool has been at the forefront of innovative games development and has created some of the most memorable titles released for the PlayStation format.

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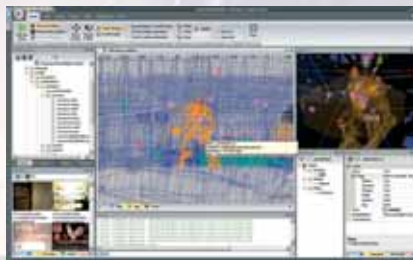
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GUSTO GAMES



Rather than become another casualty of UK development, Gusto's founding members dusted themselves down and got back to work, discovers **João Diniz Sanches**...

There is creation from destruction, it is often said. Like a supernova, Silicon Dreams' implosion earlier this century has since resulted in a scattering of fledgling studios, boasting modest sized teams reinvigorated by a renewed sense of purpose.

One such team forms Gusto Games. Legend has it Gusto started with nothing – no cash, no PCs, no office. "Just a shitload of determination and one of the most comprehensive, solid, talented group of guys I have ever had the pleasure of working with," says MD Simon Phillips. Within a week they had the dream 'start-your-own-development-studio' pack: they negotiated a deal with Acclaim, found somewhere to work and bought the necessary kit.

"That first cheque from Acclaim was an amazing moment – like coming up for air after a long, long time," remembers Phillips, a recollection which ensures the team remains as driven today. "Three years on, I am proud to say that we have grown to 35 people, three offices, two incredibly talented teams, number 57 in the *Develop 100*, and are working on one of my all-time favourites."

That'll be *Championship Manager*, although second project *World Tour Golf* is also very much on Phillips' radar, and returns from E3 having allegedly piqued much interest. To Gusto, that's a sign that its 'keep it simple, keep it fun' philosophy represents the right approach for the studio.

"I think that keeping a grasp of what makes a good game from not only a creative point of view, but a commercial one, is something that can get lost during development and turn round and bite you when you realise that you've spent years and millions on something that's never

■ Simon Phillips, MD of Gusto says that "Keeping a grasp of what makes a good game from not just a creative point of view but a commercial one is something that can get lost"

going to recoup," reasons the MD. "The structure of Gusto is one that means that most of the management team are 'hands-on' programming and so on, so the teams remain motivated and nothing goes unheard – that's really important to us."

As is the fact the studio owns its own cross platform technology which, along with the good atmosphere created within the teams due to the experienced directors' involvement in the projects, Phillips believes is an undeniable strength compared with competitors. "Truly cross platform and developed and refined over many years within the Kaboom Group," he says proudly, adding that Gusto now supports all platforms, including next-gen. "This enables us to be incredibly cost effective and offer publishers excellent value without compromising quality."

Going forward, Phillips realises the importance for Gusto to remain proactive despite its achievements to date, as well as the ability to change with industry trends, particularly in the UK. "New markets, such as casual games are a real 'touch paper' for new, creative teams to start-up and breed new talent – which is fantastic. I honestly don't think it will be long before that market explodes. Not everyone has hundreds of hours to play a game."

Should anything go supernova, expect Gusto to explore these new markets. "But we will never forget what we do best and where our bread and butter comes from," Phillips concludes with typical rationality.

■ www.gustogames.com



KEY FACTS

Studio: Gusto Games

Founded: 2003

Staff: 35

Key staff: Simon Phillips, MD; Andrew Hersee, technical director; Steve 'Scary' Archer, development director; Giles Park, lead programmer WTG and director; Rod Mack, lead programmer CM and director



SOFTOGRAPHY

Urban Freestyle Soccer (PC/PS2/Xbox/GC, 2004)

Championship Manager 5 (PS2/Xbox, 2005)

Championship Manager (PSP, 2005)

Championship Manager '06 (PS2/Xbox/PSP, 2006)

UPCOMING TITLES

Championship Manager 2007

(All console formats, Q4 2006)

"We have been constantly listening to the community and have overhauled some large areas," says Phillips on this latest follow-up to the much-loved franchise. Plenty of new "very exciting" surprises this time round are promised, though unfortunately Gusto is not yet in a position to reveal what these may be.



World Tour Golf

(PC/PS2/Xbox/PSP, Q3 2006)

Swinging in from a hot reception at E3, Gusto's first move away from the pitch is an attempt at a highly realistic golf sim boasting a unique control system which the developer is confident should earn the game a place on the green alongside long-established rivals when it tees off this autumn.

"The structure of Gusto is one that means that most of the management team are hands-on programming so the teams remain motivated..."

Simon Phillips, Gusto MD



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Information for better games

The revitalised Emergent is offering a range of new game technology and tools but the company's Metrics Element could prove most revolutionary, says **Jon Jordan**...

Product: Elements suite

Company: Emergent Game Technologies

Price: Available on request

Contact: +1 818 222 5355, sales@emergentgametech.com



When it comes to next-gen middleware there's no bigger buzzword than 'framework'. Microsoft's got its XNA framework, while Freescale has reinvented *CodeWarrior* around the same principle. For Emergent Game Technologies however, framework stretches beyond a product; instead it's an approach on which the entire company has been established.

Formed from the merger of Butterfly.net and NDL in mid-2005, Emergent's goal is to offer what CEO Geoffrey Selzer calls an 'a la carte menu of products,' ranging from graphics to more exotic fare such as game metrics, automated building and testing tools, online game services (including a proprietary backend engine) as well as customer relation services, hosting and server management, and an engineering services group.

According to Larry Mellon, the company's system architect and vice president of engineering, it's the company's framework that underpins all.

"The trick is to ensure it's not constricting," he says. "It's got to be flexible, extensible and fit the needs of the user. That's a big reason why our framework is totally modular; plug in the parts you need, unplug the parts you don't. Developers shouldn't feel they have to buy ten pieces of technology to get the three or four they really need."

But when it comes to the diverse selection of tools being offered by Emergent, Mellon reckons it's a case of the end results being more than the sum of the parts.

"We believe developers need to focus on the whole craft of

"The ability to measure player behaviour, pipeline and run-time performance is a new factor in the production process..."

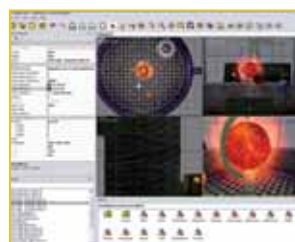
Larry Mellon, VP engineering, Emergent

game development, and that extends beyond graphics," he states. "When these pieces work together in lock-step, the result will be a breakthrough gaming experience. For instance, if developers use advanced metrics to monitor player behaviour, then use that information properly, we would have a generation of more compelling games."

Of particular interest in this respect is Metrics Element, which builds on Mellon's own experiences working on *The Sims Online*, as well as online simulators for the US military to provide constant feedback during the development process.

"As games have grown in size, the amount of data generated in developing and playing those games has increased exponentially, making it difficult to have a clear view into them," explains Mellon. "Metrics Element is a tool to help manage that complexity."

Using a preset selection of one-line probes which are added into your code, Metrics enables you to automatically gather data such as infrastructure performance, in-game economics and player activity from your game and development process, presenting it in graphical form.



■ Another of Emergent's Elements is the Gamebryo engine and production tools, as used in Bethesda's multi-million-selling *The Elder Scrolls IV: Oblivion*



■ One key part of the Emergent's Elements framework is Metrics Element, which enables you to collect and display both gameplay and production information

"We believe the measure/innovate/measure cycle that Metrics enables holds the key to creating the next class of games," Mellon says. "It's a matter of developing better ways to get more information, and then being able to make use of that data in a way that's simple and intuitive."

And it certainly seems to be an area that's making developers sit up and take notice. "We've seen a lot of studios who think they have metrics in place already but when we show them what they could be doing, their jaws hit the floor," he enthuses.

The good news is the probes can be dropped in at any phase of development, although to make most use of the results, it clearly makes sense to provide as much time for revision as possible.

"Metrics demands developers change how they look at their games," says Mellon. "Suddenly, you can see what needs changing. The ability to be able to measure player behaviour, pipeline and run-time performance is a new factor in the production process. I think it will be very interesting to see the creative uses of metrics unfold."

■ www.emergent.net

BUSINESS PARTNERS

Another increasingly common option for middleware companies is the ability to offer clients customer engineering services. It's early days for Emergent's set-up, but already it's received requests for hands-on involvement in co-development, as well as extending engines and tools to fit-a-specific workflows.

"It's a measure of the flexibility of our solution that we can easily and profitably offer these services," says Larry Mellon. "The reason we've not done this in the past is because we haven't had the resources to do it without taking away from our core development."

Launched as a separate business unit, the goal for Emergent's engineering group is to make sure its clients can reach their goals, while feeding back their expertise into Emergent's middleware development team.

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Fiona's focus

Former Criterion boss Fiona Sperry has just taken the reins as VP and GM of EA's UK development empire. And, she tells **Michael French**, she plans to turn the 600-strong operation into the country's most creative team...



"10/10 QUALITY REQUIRES A LOT OF ITERATION"

With new ideas being pushed to the forefront, one of EA's biggest drives has been behind promoting 'feature IP' – single ideas thought up by small teams that are added to big-franchise games to make them fresh.

Neil Young, EA LA general manager, discussed this in a GDC session, singling out the modifications that have occurred to the Tiger Woods-based *PGA Tour* series over the years as prime examples. It's also easy to see *The Godfather*, with its mix of borrowed feature IP (open world template with a key licence and EA's Gameface character-creation and analogue movement technology for combat) as another embodiment of this.

But *Burnout*, with its incremental modifications throughout the series having such dramatic influence within the franchise (changing the crash mode, introducing online multiplayer, adding ramps to courses etc.), is another poster child for this – something EA UK's Fiona Sperry knows well.

But she says judicious and effective project management can help any team manage such a success:

"We try and scope and cost things appropriately because other people say they'll do all these things in a game, but when they add those things together they amount to more than they thought – and when you try and get that to 10/10 quality you can't."

"But to get to 10/10 quality actually requires a lot of iteration. Look at the editing process in a film – that same process has to go on in games: how do you edit what you've got into a good package for a game?"

There's a terrible amount of conventional wisdom surrounding Electronic Arts.

Some of it – stories of cancelled projects, a whip-cracked working environment and a corporatised world satirised most recently by Douglas Coupland – you'll have heard from friends, whispers or print reports.

Other parts – its reliance on quality of marketing over quality of product, a focus on franchises and licences – are grounded in fact but don't paint a full picture.

And there's perhaps no one more aware of this right now than Fiona Sperry, the former head of Criterion recently appointed as VP and

general manager of EA's UK Studios. In her new role, it's up to her to transform the appearance of team, and improve the quality (and maybe quantity) of the studios' output.

FINDING POTENTIAL

And heaven knows that, with a huge roster of staff across the Chertsey, Warrington and Guildford bases, the EA UK studio is in need of a champion to toast it – and a ringleader to whip it into shape. In the PSone/PlayStation 2 years, the team was profitable (insanely so), but easily written off as the 'Harry Potter factory'. It wasn't until EA acquired Criterion that it seemed like its UK development

staff roster had potency – and cynics obviously said that the only way the company could get kudos was to buy it wholesale. (Rumblings over EA's other part of the deal – ownership over RenderWare – aside, that is.)

Given Criterion's creation of the *Burnout* series and *Black*, it doesn't need spelling out why Sperry has been installed as GM – a job that from the outside looked like a bit of a hot potato, having had a number of studio leaders in recent years.

At Criterion, she shook up its studio, reversing its position as a frustrating, low-quality, high-quantity studio. The teams were told to shape up, or ship out, focusing on just one game – *Burnout* –

that would be refined to perfection. It's clear that she knows the business – and that she means business, a straight-talker that's direct and upfront.

She's similarly frank when it comes to addressing how, with Criterion's team and

tools now integrated into the EA UK machinery, it's time to install the ethos and reputation for quality games Criterion has. Oh, and some of its credibility, too.

"I want us to be seen as the centre for fresh, new, original ideas, which I don't think people have thought of EA UK – they may have thought it of Criterion," says Sperry, who concedes

"Everyone's a lot better at saying they will make quality but we really need to get better at delivering against that. There's no silver bullet, it just comes down to being really focused..."

“Team sizes ballooned for a while, but we have to remember that if you create that environment it’s really difficult to maintain creativity amongst a massive team...”

SPERRY ON...

...EA's in-house problem solving:

“There’s a very healthy community that looks at how we make better games. We have clubs, which are groups of people coming together to solve specific problems, things like ‘believable characters’, or ‘animation technology’, or ‘PS3 rendering’. Some of them have silly names, some of them boring names and some things like ‘Fight Club’. But what that does is take volunteers from our teams and take them off – it could last a few weeks, six, eight – and they work on this common problem. It’s a way of getting the best brains together.”

...online:

“Online is changing every single part of everybody’s business because suddenly consumers are really smart and they’re really well informed. So far the Internet has been about making things more convenient, so in terms of entertainment things are only just starting to take off, whether you download TV shows or whatever. Working out how we can relate that to games is what’s interesting.”

“For two months I was obsessed with *Zuma* on Live Arcade – what’s great is that it’s all about the community element. We’ve all got each other’s gamertags here and we can go and see what each other has been playing. What we’ve found from that is it’s more about what you can download or find out what friends are doing rather than playing against some guy in Ohio or a kid in Croydon who will say I’m rubbish.”

...workload and crunch:

“One of my favourite periods on a game is when you’re on that final stretch, because the world outside ceases to exist – at that point you can’t imagine doing anything else, you don’t want to do anything else. If I had said to the *Burnout* team ‘Well, don’t stay late’ the guys would say ‘I have to as I’m not letting it go out the door the way it is’. They want to do the best that they can. That’s true of any creative industry – whether you are in film or if you are an artist – the challenge for us as an industry is that it shouldn’t be enforced.”

that there is definitely something in “having someone who has helped take something from nothing [*Burnout* and *Black*] and taking that experience and spreading it across what we are doing going forward” as part of her appointment. She’s a firm believer in simply giving a damn about what you do. In her first few weeks as GM, she called the Chertsey team together to gauge opinion on something written in the *Develop 100* – “each day 300 developers go to work at Chertsey, but very little seems to come out the other end” – hoping to stir the flames of loyalty.

“I told them ‘I don’t know about you, but that really pisses me off’,” she explains. “There is a perception which we have to address – that’s what the people in the studio want us to address. I’m not saying whether that perception is right or wrong, but we need to address that, otherwise we’re not being honest.”

Such honesty could be mistaken for being confrontational, but that’s not the case – with a ‘no bullshit’-style approach to games production, she explains that teams must stay focused on what they are doing, and be able to step back from the experience being created and then judge it – it’s the only way to ensure quality, she says.

“I told them [EA Chertsey] that we can change this but only if we focus on quality,” she says, but quickly adds that she’s more than aware that it will be EA UK’s actions over the next few years that will prove the commitment. “These days in the industry everyone’s a lot better at saying they will make quality but we still really need to get better at delivering against that. There’s no silver bullet, it just comes down to being really focused on what you’re doing and then looking at the game experience *all* the time. So many game teams get caught in not looking at the game and asking themselves if this is any good.”

She adds: “My strategy has always been about focus. *Burnout* and *Black* are great examples of that philosophy of doing less at higher quality. Everyone says they’re going to ‘make great games’ then when they make the game and it turns out not to be as good as they hoped they say ‘oh it was never achievable in the first place’.”

CHANGE EVERYTHING

Being prepared to stand up and be counted in this way is an embodiment of everything EA is trying to achieve company-wide in a public overhaul.

Globally, the company is trying to shake off that conventional wisdom. Going into E3, much noise was made about new IP, with a number of US-made new concepts (EA Montréal’s *Army of Two*, Maxis’ *Spore*, and RPG *Project Gray Company*) proving that there is life beyond, or at least alongside, established series.

Just a day before *Develop* sat down with Sperry during one of her days visiting the Guildford office, the company’s quarterly earnings call revealed further twists: key titles *Superman Returns* and *Medal of Honor Airborne* delayed to maintain quality, with the ejector seat button punched on the *James Bond* licence.

There’s been some changes to the way teams are run across the entire organisation, too, with smaller units of people making more effective use of the EA talent pool (and the talents of each respective EA’er) while other parts of production are outsourced. “You’re seeing that across the industry at the moment – and

certainly in EA as well," explains Sperry. "Team sizes ballooned for a while, but we have to remember that if you create that environment it's really difficult to maintain creativity amongst a massive team. And we're learning that there are parts of the game you can outsource without no loss in quality at all."

"So it's not about cost, it's about the creative environment. We found that a lot of our teams – and a lot of those people leading the teams – were saying 'When we had smaller teams it was so much better'. It's really about how you keep that creativity that comes from smaller teams. EA LA has been a great proponent of that and they have really lead the way, but now you're seeing it across all the studios."

That such a big operation – EA has the biggest in-house resource of games makers, equivalent to Nintendo, Microsoft and Sony combined, and EA UK has the biggest UK studio – is willing to run and embrace riskier prospects should prove hugely uplifting, even to those not under Electronic Arts' employ. To hear the company with a comfortable lead over, well, everyone, switch gears and say its future lies in fresh original ideas is inspiring. Something that doesn't get said often about EA, that's for sure.

It will be Sperry's job to turn the inspiration into action – but she says the change has already had a big impact on staff morale and the better, more focused team structuring is making the task easier.

"To attract the best people you want to make them feel like they can come in and make a difference – it's much easier to do that in smaller teams. So what you're seeing is a proliferation of small teams springing up, both from the existing talent pool in the company as well as bringing in new teams," she says.

"People feel like they've got real accountability and control over what they're doing and they feel really good about that."

And the new attitudes have meant EA's personnel structure is no longer rigid and unbendable, something else Sperry has encouraged the UK team to embrace with open arms: "Traditionally in games it's been this thing that you go on to a team and somehow culturally it's not the done thing to say you want to move teams – it's disloyal, or something – but here we're really changing that."

In line with this, it's become clear that the Criterion Guildford team is permeating the EA structure beyond Sperry's appointment – those who thought EA's purchase of Criterion meant its total assimilation into the corporate collective might be surprised to find that the shift is the other way round. Lead designers from *Burnout* and *Black* have already been drafted over to work on *Medal of Honor* and *Harry Potter*.

Adds Sperry: "I know film analogies are very dull these days if you're in games, but – and I know it's very different there because they are all freelance – in film they all talk about who they want to work with next. It doesn't matter if they have been in that industry long, either. In games traditionally that hasn't been the case, but it's something we can encourage here at EA."

And although it's not said outright, it's clear that the expected relationship is that the staff have such freedoms on the proviso that they are excellent at their job.

Sperry freely admits that she expected as such from the teams she oversaw previously. Talking about her early days in charge of

"We certainly are not going out and saying 'Ooh, what licences can we get'. There's a number of new concepts that have come from passionately wanting to work on new ideas..."

pre-acquisition Criterion, she says she "didn't want to be mediocre" and insisted that the company tidy up its operation in order to "stop making crappy games". And then later, when discussing the post-acquisition atmosphere: "At first, we had some guys from Chertsey down here [in Guildford] and they found it quite hard – because we're very tough on quality."

FAR FROM BURNT OUT

The doubters may be happy to hear that Sperry is now guiding EA UK towards devising new, original content for the publisher to shop out around the world, but she believes that rather than talk up product before the drawing board ink is dry, the staff are going to have make sure the substance is there.

She offers: "I can sit here and say 'oh we're doing lots of things' and arguably you can look at how the studio has changed over the past few years – and it has changed culturally – but it will mean nothing if someone said 'oh we worked ages on *Catwoman*'. It means nothing."

So where will the new ideas come from? Like all inspiration, it's not something that will be wrung out of the in-house groups. Sperry rejects the idea of EA UK playing to perceived type and working on licence or franchise games before it's even suggested (although it's clear that what she calls the "stables", *Burnout*, *Black* and *Potter*, will flex muscles in the meantime – you won't see EA UK's new stuff until next year). The studio's remit is to hit the 50 per cent watermark of new ideas that worldwide studio boss Paul Lee is demanding from all of the EA teams.

"We have a lot of talented people who I believe can create new products. We certainly are not going out and saying 'Ooh, what licences can we get'. There's a number of concepts that have come from passionately wanting to work on new ideas," she explains.

"If you look at where *Burnout* and *Black* came from, they came about because we were really passionate about those ideas and felt we had something to bring. So now I'm asking the studio what are the games they feel really passionate about making, because ultimately they will be really good at that."

"I wouldn't be doing the job if I didn't feel the potential was there to make this studio the place in EA to be creating new original products," she says, and the implication is that EA UK's muted past makes it a blank slate perfect to build on: "We're in a great position because at EA we are allowed to do that."

"Ultimately, I just want us to be seen as a real creative powerhouse," and she adds, part-joking, but you know there's focused determination under the surface: "Is that too much to ask?"

■ www.ea.com



WOMEN IN GAMES 2006

The University of Teesside is delighted to host the 3rd annual
Women in Games Conference on the 10-11th July 2006

Women in Games is open to all who are interested in the issues surrounding gender and games. As well a range of quality talks and panels, the conference provides a great networking opportunity for women working in and around the games industry

Key Speakers include:

Deborah Tillet: President - BreakAway Games, Ltd. US, talks about **Quality of Life** and how it takes more than just money to motivate employees

Kyle Machulis: Head of Nonpolynomial Network, founder of Slashdong (teledildonics/sex tech blog). Kyle's adults only talk on **Sex in Games** was authored by game designer **Brenda Brathwaite**

T.L. Taylor: Associate Professor in the Center for Computer Games Research at the University of Copenhagen, Denmark. Author of 'Play between Worlds: Exploring Online Game Culture'

Panel sessions include:

Hiring & Retaining the Best: Thinking outside the box to fill those next gen positions
Moderator **Mary-Margaret Walker**, CEO Mary-Margaret.com Recruiting & Business Services

Quality of Life - Moderated by **Jason Della Rocca** - Executive director of IGDA

The full programme can be viewed at
www.womeningames.com

If you have any queries about the event please contact Gabrielle Kent at: enquiries@womeningames.com



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Is it worth it?

Will studios get a slice of the in-game advertising action, asks **Michael French** – and should they bother...?

Electronic Arts: has always thought it a great opportunity. Sony: said there's space for it in the online 'wheel of fortune' shown at GDC. Microsoft: infatuated, following a \$300m-worth swoop for Massive Incorporated. Nintendo, however: unconvinced.

In-game advertising is being fingered as one of the games market's biggest growth points – worth \$2billion by 2010 say the latest market estimates – and with budgets for games rising so stratospherically, like some devious high score multiplier as staff, software, tools, licensing and pre-production bills mount, it's easy to see why it's such a keenly watched category.

But questions remain over the creative impact. And the commercial one. With publishers and their partners making such big noises about this new 'revenue stream', is any of it helping the thirsty developers?

\$INK OR \$WIM

The first question any producer, studio leader or MD may ask of in-game advertising is 'what's in it for me?' The answer can be anything from nothing to a few dollars up to a million dollars.

Deals for ads are always brokered between the IP holders and the likes of Double Fusion, IGA or Massive Incorporated, all of which specialise in in-game advertising and have facilitated some of the larger deals in the sector. (While all are relative newcomers to games, their marks have already been seen or will be seen very soon – *Splinter Cell*, *Test Drive Unlimited*, and *Stranglehold* are just a few of the titles each has placed ads in.) So studios that have managed to maintain ownership over their property will be in luck, while those who haven't or are working under contract will have no say in it. (Although those studios won't necessarily have nothing to say – just look at how well FreeStyle Games, SCEE and IGA have collaborated with various brand partners for *B-Boy*, detailed over the page.)

But money remains a major issue. The agencies themselves can be initially coy on the matter – perhaps understandably so, given that any ad negotiations across any media works on ratecard basis with client-specific negotiation – but when you pin them down it's clear that there is real cash in the sector. And that those claims of a market set to be worth billions aren't so unrealistic as cynics may think.



THE JURY

Where each of the format holders stand on in-game ads...



"The main source of the revenue resources in this industry must be the video games themselves. On one hand it is okay for us to seek alternative resources like in-game advertisement, but we should make much more efforts to make [games] more attractive for the current gamers and to the non-gamers."

Satoru Iwata, President, Nintendo, talking to TheStreet.com



"Advertisers are having a tough time connecting with the elusive 18 to 34 year-old male demographic because this group continues to spend less time watching TV and more time playing video games."

Joanne Bradford, global sales and marketing, Microsoft, commenting on the purchase of Massive Incorporated



"Well, it's the accepted norm in TV, radio, print and Internet content distribution, so why not adopt it in some way for games? [...] Now, having said that, we must be sensitive to the user experience and the way we integrate ads into games has yet to be defined as a universal 'language' as it has in TV."

Phil Harrison, President, SCE Worldwide Studios, Develop 61

◀ In-game advertising can add \$2 or \$3 dollars to the return on a game sold in a show – and that's just from standard dynamic billboard-style ads that have the various messages and images from sponsors fed into them. And those billboards can, according to Double Fusion, Massive and IGA – all of which have their own network SDK that gets integrated into a game – can be put into almost any environment (yet it's the relevancy of them that raises eyebrows, but we'll get to that).

Meanwhile, product placement-style deals can reap bigger rewards as brand-holders step up to see their real world product transformed into a virtual item – but the trade-off is that they require more time and more collaboration between studio, IP holder and advertiser to make sure that they do both the game and advert justice. Drinks companies, sports brands – these are the kinds of companies targetting this angle. Most recently, EA has pushed the notions of relevance to its limit, signing Jeep and one of its classic war vehicles into a period piece.

Back on the dynamic ad side, however, Massive has just teamed up with Buena Vista on its *Desperate Housewives* game with early reports saying that \$1million-worth of advertising has been presold into the game.

"We secured that a month ago," explains Massive's new media president Nicholas Longano.

He adds: "And we're at a point now where we need lead time to generate the buzz and get interest. In terms of funding, with the 60 to 70 per cent lift in development costs it is impossible, absolutely impossible – I don't care who the publisher is – for them to offset the increase via retail sales. You just cannot do it.

In-game advertising is just a new, natural revenue stream."

Such a high figure for an upcoming title begs a major question, however – one that, if answered right, could help studios snatch in-game advertising away from the 'rich publishers get richer' mode that they can currently be perceived as.

And that question is: how long until one of those 'triple-A' titles is funded entirely by advertising? Is it even possible? Given that the agencies claim that the rise of in-game ads is a side-effect of rising budget costs and a shift in the demographics, at what point will it become an aid to production rather than a solution to its pitfalls?

The answer, it seems is not any time soon. It will be a good five or six years until a direct transfer of ad money to game budget becomes even viable – but those *Develop* spoke to wouldn't rule it out entirely.

"Right now it doesn't offset development costs – but in five to six years we will be very close," says Longano.

Adds Jonathan Epstein, Double Fusion's recently appointed CEO: "In-game advertising revenues definitely open up new business models for game publishing and for game funding. I'm not sure we're quite at the position yet where you could fund a game on upfront ad projections, but I think we're within a year of that. If the question is when will advertising fund a \$30 million development project, we're still a few years off, but it's coming."

But, developers are harnessing the potential of in-game ads right now to improve their output and the value of their IP.

Epstein adds: "It's notable that some of the games Double Fusion works with in Asia have millions of users, none of whom

CASE STUDY: B-BOY

Freestyle's commercial director **Chris Lee** answers questions on the use of ads in the studio's debut title...

What's been the biggest benefit in having in-game advertisers work with you on *B-Boy*?

One of the key elements we have focused on with *B-Boy* is authenticity. Working with brands such as Adidas, Armory, Red Bull and Tribal has given us even more access to the events, people, style and overall culture of *B-Boy*. All of these brands are deeply involved in the real world of *B-Boy* and made valuable contributions to the game.

Do you think cynicism still exists amongst developers towards in-game ads?

The only cynicism from the development community and consumer comes if the game is working with inappropriate and disengaged brands.

FreeStyle actively sourced these brand partnerships to add value to the game and have invested time and energy into each relationship to make sure that everyone understands what we're trying to achieve and is focused on delivering a great game experience. The brands we have worked with understand that the priority is to deliver a good product and everyone wins through the association with that quality and success.

Have your advertisers ever asked to have a say in the design process for other game content?

No. They obviously request and deserve sign-off on how their brand is represented in-game, but they certainly haven't enforced specific design decisions. It has often worked in reverse, where FreeStyle have discussed design with the brand to get their input on how they would execute ideas on the real world.

In-game ad companies extol the many financial virtues this advertising brings – in your experience,



is it as big a cash injection as they say?

We'll start to see the in-game ad companies really kick into gear on next-generation consoles. The online capabilities will not only allow dynamic ad feeds into games, but will also ensure that user data and viewing figures can be fed back to the brand decision makers. This is when it gets very interesting and the sums of money will no doubt offer new game financing possibilities. FreeStyle have approached each brand relationship as a partnership, where we work together on the promotion of the game. This will result in each brand co-promoting and co-marketing the game throughout their usual activity.

Having gone through the process yourself, what

would you say are the creative dangers are for in-game advertising?

Make sure you select brands who understand the game space and are passionate about the success of your product. Invest time to educate the brand on what you are aiming to achieve with the game and make sure they feel involved in the process. If the partnership is established in the right way, with the right expectations, there is no need for creative conflict or issues.

What advice do you have for those expecting to integrate some form of in-game advertising on avoiding these problems?

Leave enough time. It is an iterative process with the brand and the more time you can dedicate to this, the better the end result for the game and the brand owner. Look to establish long-term relationships, rather than look for a quick dollar to finance your current title. Brands work on long-term strategies, and will value a genuine relationship where you invest time to understand their business, values and objectives.

are paying directly for the game (some pay for assets), generating insane amounts of hours of gameplay. From a media perspective, it's a triple-A title."

"Funding a triple-A multi-platform next-generation console release purely from dynamic ad dollars is unlikely to happen in the short or medium term," says IGA's founder and VP of Europe, Ed Bartlett, but he points to Nadeo's new version of *Trackmania* as a clear indication of how the advertising/developer balance can be managed. *Trackmania Nations* is available for free, devised with input from Nvidia and timed for the e-sports world cup, and is a fully-featured spin-off of the previous releases which were retail games.

"The title now has an incredibly active community," explains Bartlett. "This in turn generates more reach and therefore more impressions for in-game advertising, which translates into more dollars. It's almost a self-fulfilling model."

"As with real-world sports, the developer had a vision of allowing all people to have access to the game to practice and participate without having to make a huge outlay or commitment to purchase in the first place. Basically using the advertising revenues to lower the barrier to entry, and therefore encouraging greater participation. And this has worked beyond all expectation; some of the user statistics we are seeing are phenomenal."

MANAGING THE CREATIVE

From a creative standpoint, the biggest problem with in-game advertising for some is its very existence. It may exist in film and TV, but that's because those mediums draw their scenes from real

things, people and objects (even if all the people in their worlds seem to own Apple computers) whereas mediums that require construction of every single element don't. After all, there's really no such thing as in-book advertising (although that hasn't stopped advertisers trying – the most written-about example being Fay Weldon's jewellery-obsessed *Bulgari Connection*).

Perhaps surprisingly, it's the ad agencies that are fighting this corner so insistently.

"Context is our watchword," says IGA's Bartlett. "Every piece of research carried out on this way so far shows that the vast majority of gamers actually like their games to have real brands. However, there is always the caveat that it must be contextually relevant with the game environment, and with the audience."

In fact, says Bartlett, any fears over stereotypical message-pushing marketing goons are outdated: "Interruptive advertising is an absolute no-no. I remember seeing a proposal where they were requiring that each time the character performed a special move, the game would stop while a cut scene played out showing the respective product being used. Not cool. Anyone who really understands what an advertiser is trying to achieve with any given campaign should automatically know that the success completely relies on seamless and relevant integration, not 'brand-slapping' the consumer. Advertising is rapidly moving past that phase and into an era of 'context' and 'engagement', which is good news for developers and our industry as a whole."

But is it good news? While some developers may just think of ad men as pests, others could think of them as constraining their artistic vision, or that involving real products removes their ability



■ EA's next *Medal of Honor* game will include this Jeep replica

PLACEMENT PITFALLS

Lewis Silkin's **Philip James** looks at the legal pitfalls of brand negotiations...

So, you've done a deal to include ads and place products within your next title.

The finance director is happy as you've managed to secure some additional revenue in return for, hopefully, not doing too much work. You're laughing. Or are you?

What legal, regulatory and practical considerations should you bear in mind to ensure that your deal stays sweet and doesn't go sour?

The advertiser may well want you to enter into a trademark licence, setting out restrictions and guidelines on exactly how you must use their brand or logo. This may include specific permitted font sizes and pantone references.

Oh, and you might not be allowed to put the advertiser's brand or product on the same 'level' or screen as a competitor's brand – something to be aware of if you have already agreed a deal with a competitor brand for the same title. You will need to make sure you don't break the terms of one deal to appease the desires of another.

Although you have done the deal, have you checked with the publisher that they are okay with your including this brand in the title? Are you sure that they haven't already done a deal themselves with the same advertiser? In fact, have you warned the publisher that you are talking to the advertiser to avoid the advertiser playing you off against each other?

Does the advertiser want to be the exclusive skateboard brand in the game? If so, you may wish to consider if you can limit that exclusivity to a specific genre or only agree to limit the number of advertisers in that genre whose brand may appear in the game. The brand owner may also want to have a say in the development and marketing (although much will depend upon how much they are paying). Who will own the rights in the branding that you have created?

Although there is no specific regulation of in-game advertising, advertising in its traditional sense (as opposed to product placement) will be regulated by the ASA (the Advertising Standards Authority). In particular, if the game is targeted at children, you need to be careful the advertisements do not relate to restricted product categories (such as tobacco and alcohol advertising).

Finally, clearly specify how you will be paid. Ideally, you will want to be paid up front. Avoid any payments linked to results indicating how successful the advertising has been. ■



to generate commentary. Rockstar's *GTA* games have no ads in them; instead their worlds are thick with parody. Although perhaps designed as a controversy-magnet, which leads many to say that's why there are no ads as advertisers would steer clear, it's doubtful that Take 2 would have found it hard to find interested product placement partners were it interested, suggesting that it's Rockstar's intention to reject ads and maintain purity of message. Another example from elsewhere in other media: what if Run DMC were singing about their Adidas because they were asked/paid to, rather than because sneakers and brands were a huge part of hip-hop culture?

One important point to bear in mind is that for the agencies brokering the deals between advertisers and then powering the technical network feeding ads into games, the resulting effects have to be right – or their reputation (and their egos) get dented, as does their ability to secure more partners. In many respects, it's the game that holds all the power.

Massive's Longano is fairly plain about this aspect: "The game experience is the number one, primary concern. Even though this is our bread and butter we are secondary – we come secondary to the game experience. There have been many ideas that publishers or developers have brought to us, and said 'we'd like to put advertising in here' and we have recommended against it, because it's just not going to benefit the audience."

He adds: "People need to trust those development teams – they are only going to put ads in where they are a natural fit or a complement to the game. You won't see ads in *Middle Earth*. Even if a team wanted them to go in somewhere like *Sherwood Forest* or a 17th century title we just wouldn't do it. From that point of view I think it's the most respectful mediums of all."

He may well be right. Ultimately, for those studios with the clout amongst publishers, or the rights over the IP, the big issue for in-game advertising for them won't be what it can offer them – it's whether they can afford to do without it at all. And how likely is it that those that use it will make the mistake of overusing it? Not likely – very much because of the great thing about the boom in in-game advertising is the one thing that can destroy it: the audience. If they don't like games having adverts embedded into them on virtual hoardings or imaginary fridges, then they'll switch off.

In the meantime, the only way to ensure that it remains a respectful medium is to be respectful of it, making it clear that you know when an ad is an ad – and when your game is a game.

■ www.doublefusion.com

■ www.iga-worldwide.com

■ www.massiveincorporated.com



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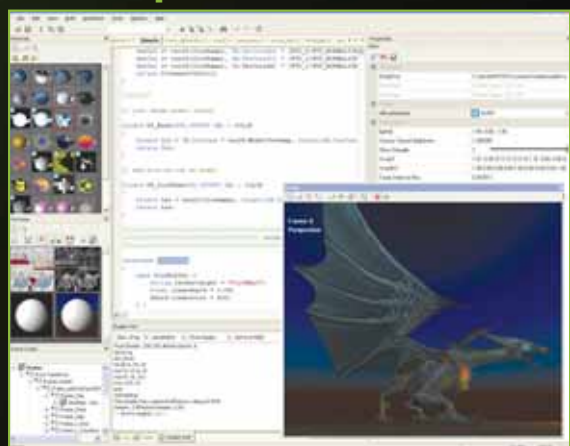
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Card tricks

A virtuous circle of increasing power and declining costs, there's never been a better time to buy a workstation graphics card, says **Jon Jordan**...



Judging the speed of change is a difficult thing when you're along for the ride as well, and as such the tiny relative differences between Nvidia and ATI's products are over-emphasised.

It's only when a player such as 3DLabs suddenly stops dead that the real pace of innovation can be seen. A corporate decision to get out of an over-competitive market with shrinking profitability on behalf of parent company Creative Labs, 3DLabs' last top-of-the-range product already looks over-priced and under-specced by those designs that have since leapt off the drawingboard.

Of course, the main reason why the workstation market continues to move so fast is the way Nvidia and ATI have integrated their professional products into their volume business, pushing down costs and speeding innovation.

It remains something of a minor point whether such cards will continue to have a place in a world where top-of-the-range gamer boards cost \$700. Still, there remains one niche that values rock solid stability over performance, which is where Matrox continues to make a good living. The joker in the pack, however, is newcomer Ageia and its PhysX card. Could it first make its mark in the pro market rather than the consumer one? ■

NVIDIA	www.nvidia.co.uk	GREEN MONSTER
Technology: Quadro FX 5500 Platforms: Win2X, WinXP (64-bit and 32-bit), Linux (64-bit and 32-bit) Cost: TBA Contact: +44 118 903 3000	Nvidia's first board to use 1GB of RAM, the Quadro FX 5500 is its ultra-high-end solution, with the theoretical capacity to shift 225 million	 triangles per second and a fillrate of 15.6 billion texels per second. But if you can't afford the ultra-high price tag, don't worry. Most of the Quadro range are based on the same 256-bit memory interface core.
ATI	www.ati.com	RED PERIL
Technology: FireGL V7350 Platforms: Win2X, WinXP (64-bit and 32-bit), Linux (64-bit and 32-bit) Cost: Around £1,000 Contact: +01 905 882 2600	The world's first 1GB workstation card, ATI's FireGL V7350 boasts 128-bit floating point precision, eight parallel geometry engines and 16 pixel shader processors. The available memory is accessed by a	 512-bit ring bus controller and display precision is 10-bit and up to 16-bit per RGB colour component. Theoretical performance tops out at 1.2 billion vertices per second and 9.6 billion pixel operations per second.
3DLABS	www.3dlabs.com	DEAD DUCK
Technology: Wildcat Realizm 800 Platforms: Win2X, WinXP (64-bit and 32-bit), Linux (64-bit and 32-bit) Cost: £1,150 Contact: +44 1784 470 555	It's not making any more workstation cards following Creative's decision to focus on portable handheld graphics, but stocks of its products are still available, so with some skilful negotiation, you might be	 able to get a good deal. The top-of-the-range Wildcat Realizm 800 ships with 640MB of RAM, split between 512MB of unified memory and 128MB of what the company called Directburst memory.
MATROX	www.matrox.com	QUALITY, NOT SPEED
Technology: Parhelia PCI 256 Platforms: Win2X, WinXP (64-bit and 32-bit), Linux, Solaris Cost: £410 Contact: +44 1753 665598	Taking a Nintendo-esque approach in terms of swapping sheer power for interesting functionality, Matrox continues to trade on the stability and robustness of its solutions, especially in the field of	 video editing. In this context, its Parhelia PCI 256 with 256MB of RAM supports dual-displays, of up to up to 2048 by 1536 resolutions, 9 million pixel monitors as well as Matrox's TripleHead desktop option.
AGEIA	www.ageia.com	GETTING PHYSICAL
Technology: PhysX Platforms: WinXP (64-bit and 32-bit) Cost: £214 Contact: +46 11 264140	Not strictly a 3D graphics card, nevertheless it's interesting to place Ageia's PC physics chip PhysX into the workstation context, not least because of its push to support 3D packages such as XSI. Released in a 128MB version by both BFG and Asus, PhysX has the theoretical throughput of 20	 billion instructions per second or 530 million sphere-to-sphere collisions per second.

What makes the perfect *simu*...

Once only available to the PC crowd, simulations now have the potential to tap into a whole new audience, forcing the genre to evolve, says **João Diniz Sanches**...

Don't say it hasn't crossed your mind: sat in one of Virgin Atlantic's comfy chairs on your way to E3, you've fantasised about a scenario involving a distressed stewardess announcing over the intercom that both pilot and co-pilot have been incapacitated (we won't let details or realism spoil the flow here) and asking whether anyone on board has any flight experience. At this point, confident that teenage months spent deftly controlling an F-16 via the keyboard in the Macintosh version of *Falcon* would make landing a 747 at LAX – an approach you've since practiced countless times on *Flight Simulator 2004* – comparatively easy, you step up and save the day. When the news crews arrive, you reveal the secret behind your success and from that moment forward gaming is seen as the saviour of humanity, a compulsory subject at every school around the world. The end.

The scenario may be unrealistic – the *Daily Mail* would probably find an angle with which to spoil the party – but the level of authenticity of today's simulations makes at least the landing part of your fantasy theoretically possible.

In an industry often fixated on the pursuit of realism, simulations represent development in its purest form (of course most games are by definition simulations but you know what category we refer to).

Ask any simulation-focused developer what the appeal is and you'll get a predictably enthusiastic answer.

"First of all, it's being appreciated greatly by the real life counterparts, meaning that teams, drivers, organisations and also manufacturers show a great interest and appreciation in all our work," says Johan Roos, CMO at SimBin, responsible for one of the current leading sims around, *GTR – FIA GT Racing Game*.

"Secondly, there is of course the actual challenge of being able to recreate that specific thing, on that specific track down to the smallest detail, almost like an obsession."

Obsessive is how sim players have long been lazily categorised, of course, though no one is disputing that it takes a certain level of dedication to play this genre properly. Yet that pales in comparison with the level of commitment required to produce a sim game in the first place.

And with the continuing increasing power of the host hardware, the experience is getting deeper and richer, argues Kuju MD Jonathan Newth: "A decade ago a game might model tens of vehicles behaving according to some very simple integer based physics system and driven by basic AI system, whereas today it is possible to dedicate an entire processor to running the

physics models for hundreds or thousands of assets in parallel to a detailed set of behaviour models running on the main processor."

But get too engrossed in the technical aspects of the game and you risk losing sight of the overall aim, Newth warns: "The single biggest challenge in building a successful simulation is getting the balance of fidelity versus accessibility correct."

"It's actually pretty easy (although not cheap) to produce a very, very accurate simulation – after all, you have the perfect specification for your game in the real world. However, the world's most accurate simulation is most likely to also be the world's most inaccessible game, appealing to a very small group of specialists. On the flip side, remove too much fidelity and you lose the very magic and challenge that your chosen simulation should embody."

SIMULATING REALITY

There is another trial facing sim developers. "I think the evolution over the last few years of the simulation genre has been the move to 3D, and I'd say the next challenge is bringing the enjoyment and fun of this genre to a console audience rather than a PC audience," says Frontier's David Braben, and this means a slight shift in approach.

He adds: "In my opinion, almost all games are to a greater or lesser extent a simulation. 'God' games, where the player is disconnected from the game world but can influence it indirectly (from *Populous* to *Civilisation* to *RollerCoaster Tycoon*) are perhaps indirect simulations, where the fun comes from the immersion in the world, from realising your plans, and from the intricacies of the process itself – i.e. in

many respects the player themselves is not really taking part in the simulation."

Populous may remain one of the earlier credible examples of the potential of sims on console, but the genre has yet to enjoy much in the way of penetration outside of its traditional PC habitat. However, there are signs things are again gaining momentum in this area. For instance, racing aficionados who welcomed SCI's bravery at releasing *Richard Burns Rally* will no doubt offer a similar reception to the THQ-published 360 version of SimBin's *GTR* when it powers in later this year.

Yet it's on one of the lesser-powered current consoles that some of the biggest advancements appear evident. Both Kuju's *Pilot Academy* and Frontier's *Thrillville*, two titles with inarguable simulation foundations, are bringing their sim-like ways to PSP, marking perhaps something of a fundamental shift for the genre

"The single biggest challenge in simulation is getting the balance of fidelity versus accessibility correct..."

Jonathan Newth, Kuju

Simulation game?

in that developers and publishers are beginning to accept non-PC platforms as legitimate homes for this type of experience.

Of course, there are certain advantages, not least of which is the potential evolution of the genre itself.

"Focusing on a console audience has allowed us to integrate many other styles of play, offering a very rich, broad gameplay experience for the player," reveals Braben. "We feel we've ended up with something unique that will appeal to a lot of people in a lot of different ways, that brings it much closer to the experience of real life theme parks."

And while a handheld's technical limitations are obviously an issue, the hardware's simplicity is also a bonus. "The number of graphic card/machine spec combinations [on PC] is prodigious, and it is only possible to test a representative set of these," Braben laments. "Even then, the user's experience of the game is frequently very different from ours – quite often, users' machines are jam-packed with all sorts of spyware and other things slowing down the system, wrong drivers or whatever, whereas on consoles we can get the game to feel 'just right'."

EVOLVING WORLDS

Regardless of whether sim development remains true to its PC roots or not, one change seems inevitable. With the performance of hardware continually evolving, current development models begin to look unfeasible in terms of teams being able to produce the next generation of simulations.

"In the future I think game studios need to be more flexible and utilise outsourcing models and distributed teams to a larger extent to be able to shape the team according to the needs of that specific [development] time and to be able to fill up the gaps in between productions," offers Roos. "There are, however, enormous difficulties in keeping a safe environment, a distributed working model and at the same time being able to keep up productivity. Therefore the key competence, programmers, leads and producers need to be tied to one studio location from where they can effectively coordinate mainly the graphical outsourcing. This will also allow companies to bring in big amounts of resources for short time periods or for specific projects also working over several years."

Others see the change at a more fundamental level. "I think the wider simulation sector has been saturated by mediocre to poor games – many of which have simply attached the word 'Tycoon' to their titles to try to give them some credibility," begins Braben, for who simulation games still have to be fun and rewarding, something he believes is often forgotten. "All games are to some extent a simulation, even 'action' games but sometimes all that is there is the simulation component, appealing to an ever narrower set of people."

"I think the key is never to lose sight of why the player would want to play such a game – i.e. where is the fun? The simulation elements are merely a means towards this end. While it is easy to get obsessed with the simulation side, we shouldn't lose sight of the wider goal, and I think this happens all too often."

■ www.developmag.com

Sim learning

RACING AHEAD



SimBin's Johan Roos argues the accuracy needed for every aspect of a production and how a failure in a single part can destroy the whole makes simulations harder to develop than other genres. And as gamers demand increased realism and detail, the process only becomes increasingly intricate but he's confident developers will continue to meet and exceed their public's expectations.

While he won't reveal specific details of SimBin's future developments, he does state things he would personally like to see incorporated into forthcoming productions include "more life and generic/dynamic elements to tracks and environments, tons of more functionality and features on the cars and realistic interactive career features that do not limit people or force them to see animated videos".

Other than that pointer, his advice for creating the ultimate sim is:

1. [Ensure you have] an insane library of contacts within the industry of whatever you are planning to simulate.
2. Tons of references of *everything* that comes to mind with regards to your sim. This requires, first of all, extremely good reference material and a lot of real craftsman's work but it is the only way to gain true realism at the end of the day – in a fantasy based game you don't have a model you have to stick to so you can mass produce cars and tracks and have a lot more freedom.
3. Loads of money to gather all these references and all the data.
4. Lots of patience and passion for what you do.
5. A very forgiving mother or girlfriend or wife (or reversed for the opposite sex).

THE SKY'S THE LIMIT



"There are certainly limitations on the PSP," says Jonathan Newth of Kuju's forthcoming fun flight sim for Sony's handheld. "With flying games the lack of buttons can be as much of a problem as the amount of processing power – but in many ways this makes it the perfect platform for something like *Pilot Academy*. We wanted the game to be very accessible and not overwhelm mainstream and casual gamers, so the simple controls are actually a benefit."

Though the perception may be that simulation games have dipped in popularity in recent years, Newth disputes this before revealing his top five tips to sim creation. "I [think] the simulation market has continued to grow steadily; however this has to be set against the continued explosive growth of the rest of the games business. So whilst sales of simulation games have grown in absolute terms these sales are smaller in as a proportion over overall games sales."

Here are Newth's tips on creating a simulation-based game:

1. The first and most important rule is not to lose sight of what you are pursuing, and that is first and foremost a game.
2. Secondly, there is one common rule for any type game, be it a simulation or an adventure game, and that is suspension of disbelief or immersion – if you can get your player to lose themselves in the game and forget where they are you are 90 per cent of the way to delivering a great game experience.
3. Another key factor to success is research – get the detail right.
4. Balance – you need to cater for the new player and the hardcore audience alike.
5. Finally, engage with your target community – if you can do this through development they can help you build a great game.

ART



by Lloyd Burr, SCEA

It doesn't take a giant leap of imagination to think of better ways to spend a weekend than moving home.

Meticulously packing away all the component parts of your life into (ever so slightly overly heavy) boxes, lugging them via van and brute force to a new location, only to unpack and reassemble everything into your new living space.

In my particular case this new space was significantly smaller than the vacated one, which necessitated a certain ruthless approach to discarding unnecessary possessions. Family, friends, charity and the local dump all played their parts in my down-sizing process.

Conversely as we make the move to next-gen we find ourselves moving into a much larger abode.

The rooms are bigger and there are more of them, the views through the windows are sharper and (pushing the analogy to tenuous levels) all the appliances work that much faster.

So here at Sony we're glad that there's plenty of space to keep all those skills that used to furnish *chez PS2*, but we're also looking forward to filling all that empty space with new ideas and creativity.

Indeed it's a great opportunity to get out all those skills we had packed away in storage that there was never room for previously. And if, no matter how hard we try, we just can't assemble that flat packed wardrobe; it's time to learn new skills and get packed off ourselves to a training course.

But as we all know a new home takes a while to settle into, the first few weeks are spent living out of boxes, and inevitably the item you're looking for is always in the bottom one. Don't misunderstand me though; I'm not saying the early pioneer games on next-gen look shoddy, far from it, as we've all seen some remarkable results from E3 this year.

However, as we begin to spend more time in our new home we'll understand how best to arrange our possessions, and that's when you really begin to make a house into a home.

When it comes to the animation room we're currently shopping around for furnishings. There's the lure of new technologies, greater realism, finer controls and a lot of space to put them.

It's easy to fill a room but it's more of a challenge to design it and come up with a coordinating style. Now it's about determining whether these elements work together and what looks best. Perhaps it's time to hire a feng shui expert.

■ www.scea.net

SONYSTYLE

The joy of animation

It made its name with pre-scripted animation but NaturalMotion has realised its long-term goal, says **Jon Jordan**...

Product *Euphoria*

Company NaturalMotion

Price Available on request

Contact +44 1865 250 575

Even before its first animation tool *Endorphin* was released, NaturalMotion's CEO Torsten Reil was clear what the ultimate prize for the company's underlying dynamic motion synthesis technology was; a real-time game engine.

"When we first showed *Endorphin*, a lot of developers approached us for a run-time version," he said back in early 2003. "The potential of the technology is it will work very well real-time but we've decided to prove ourselves first. It will take a long time to make the real-time engine robust, whereas we can deliver *Endorphin* relatively quickly."

Fast forward three years and those plans have come to fruition in the shape of *euphoria*. But while it relies on the same mixture of biomechanics, robotic control theory and artificial intelligence as *Endorphin*, which is used to quickly generated canned animation, *euphoria* is a very different animal.

"*Endorphin* is about its unique game moments," states Reil. "Past generations of consoles haven't been able to do this but now the CPUs are fast enough. It's what next-gen games are about."

It's a powerful sale pitch and one that's met with a receptive audience. The first client is LucasArts. NaturalMotion has one other as-yet-unannounced client using it for a 'massive IP', but is otherwise limiting access.

"We're pacing ourselves because it's a different type of middleware," Reil says. Instead of the traditional box model, with



■ Although there are no sport games yet announced which use *euphoria*, its selling point of unique game moments makes complete sense in terms of such physical contact

euphoria NaturalMotion has positioned itself as a development partner, with on-site teams helping to integrate the technology into existing workflows and pipelines.

Interestingly both clients also use *Endorphin*, something Reil says helps in terms of getting animators' buy-in. "They have to define what they want the behaviours to look like so if they understand how *Endorphin* works it makes it a lot easier," he explains. The cycle is finally complete.

■ www.naturalmotion.com

ELEMENTS OF EUPHORIA

Euphoria considers of two main components: *euphoria:core*, which is the runtime; and *euphoria:studio*, the authoring environment.

The engine itself is lightweight and can be added to a game in a non-disruptive manner.

"It exists as an extra stream of animation data, which you can call on if you want to, in parallel with the animation engine," Reil explains. "It's a very scalable process because if you can replace a small number of animations to begin with, and if it works well add more."

Euphoria:studio is a standalone application for character behaviours, which visually looks a bit like *Endorphin* but also contains extensive performance profilers. It's powered by *euphoria:core* to provide seamless integration.

Menus Master 2.1



Price: Available on request
Company: Omegame
Contact: contact@omegame.com

Perhaps there's a subtle hint of irony but the latest version of user interface middleware *Menus Master* has received an ergonomic brush up of its own. But that's not all with plenty of other features added, such as a totally revamped scene creation system and a new keyframer. Other new tools to ease the process of creating HUDs and menus include a template system for inter-project flexibility, a carousel creation tool and a drag and drop resource library. Support is also added for pixel and vertex shaders.

■ www.omegame.com

modo 201



Price: \$895, upgrade \$395
Company: Luxology
Contact: +01 650 378 8506

The second branching from the continuously developed Mac/PC *modo* art package brings modelling, painting and rendering into play. Labelled *modo 201*, it builds on Luxology's reputation for hybrid subdivision surface/polygon tools with the addition of integrated painting, rendering and baking technology, with changes seen almost immediately via a progressively rendered viewport. There's an integrated learning system with 4 GB of video tutorials and a library of sample content. The package is designed to work smoothly with existing 2D and 3D apps, too.

■ www.modos3d.com

Genetica Viewer



Price: Free
Company: Spiral Graphics
Contact: info@spiralgraphics.biz

Combining the release of its free viewer with a royalty-free collection of 127 seamless floor and wall textures, Spiral Graphics continues to push the case for procedurally generated graphics. The *Genetica Viewer* is a free application for rendering textures using the proprietary GTX format, which, compared to bitmaps supports embedded effect maps and is resolution independence up to 3k by 3k. The texture collection contains a range of brick, block, marble and tile surfaces, each of which can be further edited in Spiral Graphics' *Genetica* texture editor.

■ www.spiralgraphics.biz

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F 18-25 to share my last hours

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and hobbies.
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wealthy, young, sexy, Blonde for nights in
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AUDIO



with John Broomhall

This Month *Rhythmic Star* (PS2, EyeToy)

Publisher Namco/Ignition

Developer Namco Japan

Music Production Ged Grimes & Gregor Philip at Jack's Hoose Music

THE NUMBERS **Music:** 22 tracks



When Namco needed a company to bridge the cultural music gap for a Japanese-developed game aimed at the Western market, Jack's Hoose Music was a

natural choice given Jed Grimes' experience of music and video games industries, both here and in the Far East.

To turn around the licensing, re-recording and production in approximately three months was a tall order for anyone – a challenge compounded by some unusual requirements. Says Grimes: "We had to reproduce the tracks to sound as near the originals as possible hence using some excellent 'sound-a-likes' like the *Stars In Their Eyes* 'Freddie Mercury' guy (who was unnervingly close). Namco also required the midi parts for every single musical or percussive element be logged within pre-agreed, complex Logic templates.

"On top of that we were to embellish the existing arrangements with additional original elements such as a stab here or a conga loop there, the reason being that various components of the music are hooked into the gameplay – for instance, the player may interactively unlock certain musical parts – all very clever but making music production all the more complicated."

With licensing on a very tight timeline, the team had to be ultra-smart with selection criteria to establish which songs could be cleared quickly. Adds Grimes: "We had to prioritise songs written by sync-friendly small teams and you have to trade off flexibility against time in this kind of scenario – Beatles? Forget it! Also, the songs have to be re-structured down to 1.5 minutes, and have universal appeal with acceptable lyrics for 'children of all ages'."

Good project management and clear communications were vital, says Grimes: "Gregor and I worked in tandem. He might be laying down guitars, whilst I recorded vocals, and we delivered work to each other via FTP. Working directly with a Japanese based company, it was absolutely imperative that we were really, really clear about exactly what was being asked for and, of course, Namco had to invest a high level of trust in our judgements about which tracks would work in the Western market.

"It all came together and we've had some brilliant feedback. Sure, it was hard but we had some great fun too – at least I can say I've recorded Freddie Mercury, now. Well, nearly..."



John Broomhall is an independent audio director, consultant and content provider
 ■ www.johnbroomhall.co.uk

HEARDABOUT

Going with the flow

Games are defined by their interactivity, and InterAmus' Musifier promises to bring such fluidity to game music...

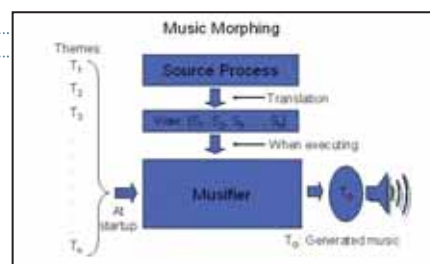
Product *Musifier Virtual Orchestra* **Price** TBA
Company InterAmus Music Systems
Contact jonas.edlund@interamus.com

One of the major issues for composers of game scores is trying to balance the impact of audio within an interactive medium, where variables such as camera direction are unknown. But if technology creates the problem, can it also provide a solution? That's the goal behind *Musifier Virtual Orchestra*, a piece of real-time music morphing software in development at Swedish outfit InterAmus.

"Unlike film music, where every scene is planned in detail, detailed preparation of fully adaptive music scores for games cannot be done in advance. But to get a really full gaming experience the music should be interactive and follow the action," reckons InterAmus' founder and CEO Jonas Edlund. "We want to take the experience everybody has at the movies and make it into something that you can control."

Such a claim comes with certain conditions, however. Most notably, the soundtrack must be constructed from smaller thematic elements that will work well when they are gradually layered together and transitioned between each other.

"It's like working with single frame animation in photography," Edlund says. "The composer must ensure the sequences of short fragments he uses will work in every possible scenario, both horizontally and vertically. The *Musifier* takes care of this kind of detail in real-time, allowing the composer to focus on the broad musical outline. It is to adaptive music scoring what motion pictures are to photography."



■ Although still in the prototyping stage, *Musifier* is a technology which interactively morphs between multiple audio inputs as driven by a dynamic weighting system

The way *Musifier* drives such interactive audio is by picking up on state changes within the game, which are then used to drive the audio. The amount of variation is controlled by a dynamic weighting system, which provides what InterAmus calls a representative view of game elements, such as distance to an enemy or health level.

Using a set of defined rules, this drives the themes, which are the music sources, typically broken down at an instrumental level. The detail of the transitions is handled automatically, allowing the composer to concentrate on the core themes. The usage of themes can also be controlled in terms of which themes are loading into each game level or area.

Currently in an alpha phase, *Musifier* only supports MIDI files, but InterAmus is looking to widen support to pre-recorded files as part of its drive to link up with audio partners to get the technology worked up into a commercial product. There's also an interactive demo of the technology available on its website.

■ www.interamus.com

DTS-HD Master Audio Suite



Price: \$1,500
Company: DTS
Contact: +44 1189 349 199

Ramping up its technology to deal with the new high definition disc formats, DTS has announced *Master Audio Suite*. Consisting of an encoder module, a StreamPlayer decoder, and StreamTools stream editing and verification tools, it is compatible with both Mac OS 10.4.x and Windows XP. Supporting all DTS bit streams, applicable formats include HD DVD and Blu-ray Disc audio streams with up to 7.1 channels at sampling rates of up to 192 kHz. The *Master Audio Suite* will begin shipping in Q3.

■ www.dts.com

Cinescore



Price: \$250
Company: Sony Media Software
Contact: +01 608 204 7680

It's not quite a magic button that will do your work for you, but *Cinescore* promises to take the grind out of creating a soundtrack.

Just select a basic theme and timing and its music generation engine will create music that can be shaped to fit your project. Tempo, intensity, variation and repetition can all be tweaked down to a per-frame level using hint markers.

You can also edit the track in real-time. It ships with 20 copyright-free themes and additional packs available.

■ www.sony.com/m mediasoftware

AmpliTube 2



Price: £199
Company: IK Multimedia
Contact: +44 1223 234414

Boasting a redesigned user interface, the *AmpliTube 2* plug-in offers a comprehensive collection of guitar amp and effect processing including 14 preamps, seven power amps, 16 cabinets, 6 microphone models plus 21 stomp effects and 11 rack effects. These can also be mixed and matched with a possible 20,000 combinations available. Each of the five modules – tuner, stomp, amp head, mic'd cabinet and rack effects – are laid down on two configurable rigs, and it also supports IK's forthcoming StompIO foot control and audio interface.

■ www.ikmultimedia.com

Mobile makes its mark at E3

Mobile games hardly stole the show in Los Angeles but they certainly set the stage for 2007, says **Owain Bennallack...**

Were mobile gaming to actually explode beyond the wildest dreams of its cheerleaders, it's still hard to imagine mobile games ruling the E3 conference.

Two-inch screens vs. HD? Fiddly number pads vs. flinging a Wii controller about? Get real.

Mobile games are made for bus journeys and the back of the classroom, not for shouting loudest on the show floor.

And yet E3 was a quiet success for the platform, at least in terms of momentum. EA's entry into the market has prompted other traditional games publishers to throw their lot behind mobile and bring new games to the trade show jamboree, while longer term players such as Gameloft and THQ Wireless delivered strong line-ups, and a wealth of titles from the remaining indies (Glu, I-play, and co) show they've not been frightened off by Mitch Lasky of EA's playground posturing.

E3 even saw local girl Paris Hilton bring a touch of much-needed glamour to the mobile space, when she tottered across town to peddle Gameloft's *Paris Hilton's Diamond Quest*. Requests that she pose for the camera were happily fulfilled, although perhaps not in the way that every show goer wanted.

GOLIATH VERSUS GOLIATH

Still, there have been mobile games worth playing for years now. Perhaps more important were announcements from two technology behemoths – Nokia and Microsoft. Both used E3 to announce their own radical shake-ups in the way gamers will be able to buy, download and play mobile games in 2007.

Besides a lack of innovation, most gamers (and would-be gamers) blame the awkward shopping experience for their lack of enthusiasm for the mobile platform.

Enter Nokia and Microsoft, head-to-head and running right at each other.

Nokia has been trailing its next gen N-Gage platform for a while now, but E3 saw its grand reveal. Essentially a purchasing portal and content management system running on Nokia's smartphones on the gamer side with extensive developer support on the industry side, crucially, the previous gamedeck specific at the centre of the N-Gage strategy has gone – something Nokia says is about giving consumers more choice.

There's more than a touch of Xbox Live to the N-Gage in operation (you've a unique identity, it integrates with the N-Gage Arena, and so on) so perhaps it's only fair Microsoft is extending Live's tendrils into mobile. Bill Gates himself turned up at E3 to reveal 'Live Anywhere', which will let mobile gamers download games, manage friends' lists, and tweak and tune aspects of their Xbox and PC games from their handsets. Live Anywhere is due to arrive within the next year.

All of which is good news for developers and publishers, in that these giants are tackling what operators seem unable or unwilling to improve (though who knows, they may yet inspire operators to overhaul their portals).

But as they're proprietary channels, let's just hope Nokia and Microsoft open their doors as widely as possible to new content and smaller players, to help make next year's E3 really worth remembering for mobile games.



Going Native

by Chris Wright, I-play

Mobile game development is all about J2ME, right. Well no, BREW in the US is providing a quality level that is simply impossible on Java. With Flash on its way the competition is even hotter.

J2ME was created for mobile and its big USP was to provide a virtual machine to escape compatibility issues. The fact that BREW which is a native development environment is seen as considerably more cross-platform and compatible than J2ME shows just how bad J2ME has been in its biggest USP. When you also consider you're taking a four-fold performance hit when using J2ME against BREW, you can see why there is a push for an alternative.

And there are two new kids on the block trying. OpenKODE is an implementation of a native environment on non-BREW handsets. This provides the performance of native code, but time will tell if the amazing compatibility that we have seen on BREW is maintainable outside of the single-chip-supplier world of BREW.

The other route is Flash which looses some of the performance and functionality of J2ME but aims to provide a transferable solution with no porting required. This holy grail of mobile development, where over half the development costs are sunk in endless porting, should allow games to auto scale across the wide range of screen resolution. J2ME never took this into account, meaning that getting a game to work across all resolutions has been one of the biggest issues.

Both of these solutions appeal for different reasons (and products). A cross-platform native environment with an easy route to porting to BREW would allow the development of some high-end arcade-style apps and allow 3D to really take off on mobile.

On the other hand Flash with its low development costs and zero porting would make casual games even easier to develop and for more simple style games to become viable.

There is also talk of BREW breaking out of the US confines and becoming much more widely available partly due to the move into 3G. The market for alternatives to J2ME is therefore becoming crowded.

The question then is what happens to J2ME; suddenly it looks like the ugly duckling. It needs to carve itself a niche or it will die in a market it created.

■ www.iplay.com

WRIGHTON

MOBILE

E3: THE TOP FIVE ON MOBILE



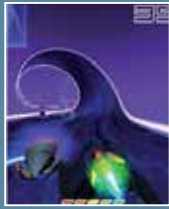
Orcs & Elves (left)
John Carmack's fantasy role-playing game is made just for mobile, and is published by Electronic Arts.



Lumines (bottom left)
Arguably the PSP's most compelling game has made it to mobile intact, although there are some question marks over the music.



System Rush Evolution (right)
A glimpse of what the next generation N-Gage games platform (running on



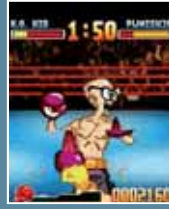
Before Crisis: Final Fantasy VII

(right)
The most exciting of the five *Final Fantasy* games Square-Enix announced for mobile at E3, even though it was released in Japan in 2004.

Nokia's N-series Smartphones) looks like.

Super KO Boxing

(right)
Cartoon-styled fighting game that puts fun to the fore – bite-sized mobile gaming at its best.



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Design shifts at E3

Finally, says **Michael French**, we're seeing a return on the investments made for next-gen. And the results are surprising...

This year's E3 was different, not for the fact that now two format holders have thrown their weight behind motion sensing but because, finally, the promise of what 'next-gen' might mean beyond graphics and new consoles has finally delivered.

Instead of nothing but, in the words of one LucasArts game demo'er, "wall-to-wall games that look the same as current games but slightly shinier", the games on the showfloor weren't just obsessed with good looks – instead, there was an unspoken focus on the way games fit into lifestyles as entertainment.

And by that we mean something beyond the tiresome idea of resurrecting an old film licence.

Titles like *Eye of Judgement* and *SingStar Online* may simply refine established ideas, but the way those ideas have been redeveloped, pushing person-to-person interaction to the fore was unmistakable.

Same goes for the way the DS and PSP have been re-adapted as useful items, or how Xbox Live Arcade has inspired Microsoft and Q Entertainment to reappropriate former handheld game (and now burgeoning franchise) *Lumines* and pipe it full of mainstream music via online.



Eye of Judgement
SCEJ

Last year's EyeToy2 teaser *Eyedentity* failed to materialise this year (like a few other PS3 titles touted in '05), but this new game intrigued. A *Magic: The Gathering*-esque game where the camera knows what cards you are playing, putting monsters on TV like *Star Wars*' holo-chess.



SingStar Online
SCEE London Studio

The obvious choice for London Studio's first project, but where *SingStar Online* piques interest in the way it pushes community elements potentially ahead of the commerce-focused buy-a-song set-up that will presumably be the main commercial push for Sony.



Lumines Live
Q Entertainment

Exploiting Microsoft's new deal with Warner Music, this XBLA version pipes music content straight into the game – the example was Madonna, but hopefully the selection available will be as eclectic as that in the PSP original, given the soundtrack is such an important part of the game.



Opera for DS, PSP guides
Nintendo, Sony

There was only one copy of the DS' web browser running on the showfloor, but it was always in use by the curious. That this was the case, and that Sony Europe chose to announce its long-in-the-making travel guides for the PSP and the LocationFree home entertainment set-up says a lot – and it's not just that the handhelds are only now fulfilling their multimedia capabilities. All of a sudden, format holders think that they can transfer their smarts in hardware and interface design from pure entertainment to bog-standard 'non-game' functionality. Good news perhaps for anyone who has wrestled with in-flight entertainment systems' dire interfaces – maybe Sony or Nintendo could fix those next.



Excite Truck
Monster

Sleight of hand on Nintendo's part, twice: it's adapted the *Excite Bike* brand into a truck game that looks none-too-dissimilar to *Burnout*. Plus, it's developed in the US. To play, you hold the controller like a wheel, with the ability to also tilt the vehicle when it is airborne.



Heavenly Sword
Ninja Theory

While many discussed the PS3 price or the new pad, it was refreshing to see a next-gen title turn up and live up to the hype. Culling it a good-looking action-adventure belittles the effort that seeps from the screen, but this – a new IP, no less – had some of the longest waits in the Sony area.



Army Of Two
EA Montreal

The first next-gen game out of the mega-publisher's newest Canadian studio, and the first of the batch of new IP-based games from EA to turn heads (one that isn't by Will Wright, that is). Interestingly, the PS3/360 game puts two-man co-op as its central device.



Crysis
Crytek

Potentially a key Vista game should Microsoft really decide to make DX10 – which the game is built for – exclusive to the new OS, *Crysis* drew attention from those wanting to see what the *Far Cry* team did next. But is there a chance it could represent the start of a turnaround for PC?



Immersion

by Jamie Thomson

I'm still playing *Oblivion*, and part of its addictive nature is its supreme delivery of that elusive sense of immersion.

Sure its excellent visuals make a difference – there's nothing like stepping out onto a breathtaking vista of snow-capped mountains and sweeping fields of swaying grasses – but there's more to it than that.

Nothing that happens in the world takes you out of the world. There are no cut-scenes – not in the traditional sense, anyway. There are scripted events, but they're all in-game, happening in real time in front of your character's eyes. The world is populated with characters that go to work, have lunch in the local inn, go home, or go out at night and steal from their fellow NPCs.

Developer Bethesda calls it 'Radiant AI'. Watching people go to work in their shop or till the fields all day doesn't sound that exciting but it's the fact that it's going on in the background that's important. It makes the place feel like a living, breathing world full of people living their own lives.

One feature that's important is that they talk to each other, constantly. You can walk down a street in any given town and hear people greeting each other and having a conversation. Sometimes you can pick up useful game clues, but mostly it's there to create ambient immersion.

The developers must have recorded tons of speech, however they don't really have full control over who meets who, and who says what. They've done a pretty good job of making sure things make sense, but sometimes the random selection of conversation topics leads to some hilarious moments.

Here's an amusing example of a conversation between an aggressively rude Orcish type non-player character and a polite citizen:

NPC1: "Get out of my face!"

NPC 2: "Hello, how are you today?"

NPC 1: "Terrible."

NPC 2: "That's great!"

NPC 1: "Have a nice day now!"

NPC 2: "Oh, if that's the way you feel..."

Or this curious exchange:

NPC 1: "I heard Demon worship is becoming increasingly prevalent in the Summurset isle."

NPC 2: "Great!"

NPC 1: "Bye."

I guess that's the price you pay if you let the inhabitants of your world live by their own rules. Maybe it has something to do with free will, perhaps – or maybe it's got more to do with the fact that while these worlds can be created, they can't always be expected to keep up the illusion. ■

DESIGN

FLAWED GENIUS



The Purity of Code

by Chris Keegan, Climax

Conjuring something from nothing – that was always the appeal I found when writing software. The ability to take a simple text editor and make something interesting happen. Okay, so it's not just a simple text editor, even back when there was always an assembler, compiler, debugger. But then there was always a pencil or a brush or a typewriter – tools of the trade.

There's a purity in the process of taking a collection of disparate (perhaps that's always been my problem!) and abstract ideas and transliterating them into a form understandable by a machine and seeing the results, the flaws in my logic or in fact in the core idea itself, exposed without emotion via the assembler and the hardware.

Think of the process we go through when faced with the challenge of making something. First visualising the problem, understanding it, figuring out what the correct results are. This might involve some process more or less formal, more or less documentary, it depends on your school of thought; start with the tests, start with hacking the code in.

I'm guessing if you've been in the games industry for any length of time which approach has tended to be more common; naturally extensive planning and design.

Once the problem is clear then we can start throwing those ideas out into the source and header files. For me this is the time when the ideas are most fragile, a time when making broad changes is most tempting (even when working under the awning of design materials) because nothing is firm enough to carry the weight of correctness because before the first compilation, you've got the freedom: "I don't expect any of this to compile."

When you ask the compiler for its opinion reality crashes the party. The compiler neither shy nor unwilling, which is why our hands instinctively form that shape that put our fingers on the compile keys, whatever they are, and why holy wars break out about editors and key configurations. But once the compiler has been tamed the debugger can be brought into the fray, and again another dangerous time when the code runs for the first time. Still the fear, of course it won't run, but how far in dare you set the first breakpoint? The first line or just let it go?

Then pushing further and further into the code before the brief joy when it runs correctly (more or less). All of which lasts until later when that sickening feeling grips; an obscure boundary case threatens the whole towering edifice of your creation and you realise the whole thing was never going to work anyway. And that feeling lasts until tomorrow.

■ www.climaxgroup.com

Rethinking the maths of games

Based on cutting-edge research, Geometric Algebra promises to bring a unified mathematical framework to development...

Product TBA **Price** TBA
Company Geomerics
Contact +44 (0)1223 370030,
info@geomerics.com

It's not uncommon for developers to describe their games as earth-shattering. Even middleware companies have been known to get hyperbolic. For technology start-up Geomerics however, there's an ironic gap between belief in the transforming power of its scheme and the fast-track education required before it can explain to interested parties what it's all about.

"It's simple. It's about dividing a sphere by a vector," reckons Chris Doran, the company's CEO. But he would say that. Despite his fresh-faced demeanour, he's been a Cambridge University-based researcher in the specialised field of Geometric Algebra (GA) for over ten years.

But there is a clue in his description; Geometric Algebra is an approach that handles the mathematics related to geometry in a particularly elegant manner. Or in a game-centric context, it's a way of representing 3D rotations and translations within a unified mathematical framework.

It might not sound like much, but games currently rely on linear algebra, in which translations and rotations must be handled separately, resulting in all manner of fudges and bugs. Swapping in GA could be revolutionary, according to Doran, enabling faster and more robust calculations.

The way the maths breaks down into code also meshes well with processor architectures, both in terms of running on GPUs or being applied to CPU SIMD operations.



■ Jules Davis, CTO,
Geomerics



■ Chris Doran, CEO,
Geomerics

But the challenge Geomerics faces is two-fold; choosing the right area of application and convincing a somewhat sceptical development community this new approach will work. That's where CTO Jules Davis comes in.

Previously technical director at Kuju, he's spearheading the drive to concentrate GA into a product that will provide the most bang for the least buck.

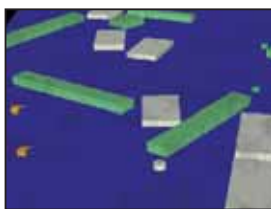
"Developers want performance, control and stability, but they also need solutions that are flexible and don't force them into a specific structure," Davis says. "To make sure we get this right we have been engaging closely with industry partners from the beginning."

Some of these are developers, but Geomerics is keen on working with other middleware providers too, in cases where a GA-powered blackbox or plug-in could be added to existing industry-standard products. There's even the possibility of working with silicon designers to encapsulate such smarts in future hardware.

"At the moment, we're working closely with a small number of partners to help a few titles really stand out," Davis says. "But our ultimate goal is for GA to become the *de facto* language for gaming problems." And that really would be earth-shattering.

■ www.geomerics.com

PathEngine Maya plugin



Price: Free to existing licensees
Company: PathEngine
Contact: +33 4 72 87 03 36

French AI provider PathEngine has extended support for its pathfinding and agent engine to Maya, matching the functionality previously available only to 3ds Max users. This includes the ability to import PathEngine's environment markup system, export ground meshes and the automatic connection of ground pieces. It also supports export for situations where object creation and instantiation takes place in separate applications. Available immediately for clients and registered evaluators, PathEngine costs from €4,000 per product, per platform for new licensees.
 ■ www.pathengine.com

ELF v1.0



Price: Open source
Company: Emthesis Development
Contact: info@emthesis.com

Looking to add some glue to open source development, Italian outfit Emthesis has come up with its ELF integrated scripting system. Based on Lua, ELF includes a virtual run-time environment so you can use it to control dynamic loadable modules, such as 3D graphics and positional audio. Using such a modular system, communications between each module is controlled by Lua scripts which are processed by the ELF kernel, without requiring recompilation. Available free for non-commercial applications, ELF does require an activation key.
 ■ www.emthesis.com/elf

DarkBASIC Pro Upgrade 6



Price: £50
Company: The Game Creators
Contact: sales@thegamecreators.com

After four beta versions and ten release-candidates, lead coder Lee Bamber and the team at The Game Creators have finally completed Upgrade 6 for the BASIC-syntaxed but DirectX 9.0c-supporting DarkBASIC Professional. The 10.5MB download for the game creation package includes hundreds of fixes and enhancements, with stability a key concern – a new help system has also been added to the package. Overall performance is also increased with smaller executables one result. Another addition is new compiler which supports licensed plug-ins.
 ■ www.thegamecreators.com

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INTELLECTUAL PROPERTY

New Console IP

Buzz! (SCEE External Development/Relentless)
Black (Criterion)
Pursuit Force (Bigbig)
Spartan: Total Warrior (Creative Assembly)
Kameo (Rare)

New PC IP

The Movies (Lionhead)
Fahrenheit (Quantic Dream)
Sniper Elite (Rebellion)
Rag Doll Kung Fu (Mark Healey)

Best Use of a Licence

Rogue Trooper (Rebellion)
24: The Game (SCEE Cambridge)
Chronicles of Narnia (TT Games/Traveller's Tales)
King Kong (Ubisoft)
Wallace & Gromit (Frontier)
Plug-in TV Games (HotGen)

INNOVATION SERVICES AND TECHNOLOGY

Best Use of Online

Bizarre Creations (Geometry Wars: Retro Evolved)
Rare (Perfect Dark Zero)
SCEE Liverpool (Wipeout Pure downloads)
Introversion (Darwinia via Steam)

Best Art & Sound

Bizarre (Project Gotham Racing 3/Geometry Wars: Retro Evolved)
Criterion (Burnout Revenge/Black)
Rare (Kameo)
Deep Red (Tycoon City: New York)
Climax (Moto GP '06)

Innovation

SCEE External Development/Relentless (Buzz controllers)
Mark Healey (Rag Doll Kung Fu)
Fuse (Metroid Prime Pinball rumble pack)
Broadsword (Dance Factory)
In2Games (Real World Golf)

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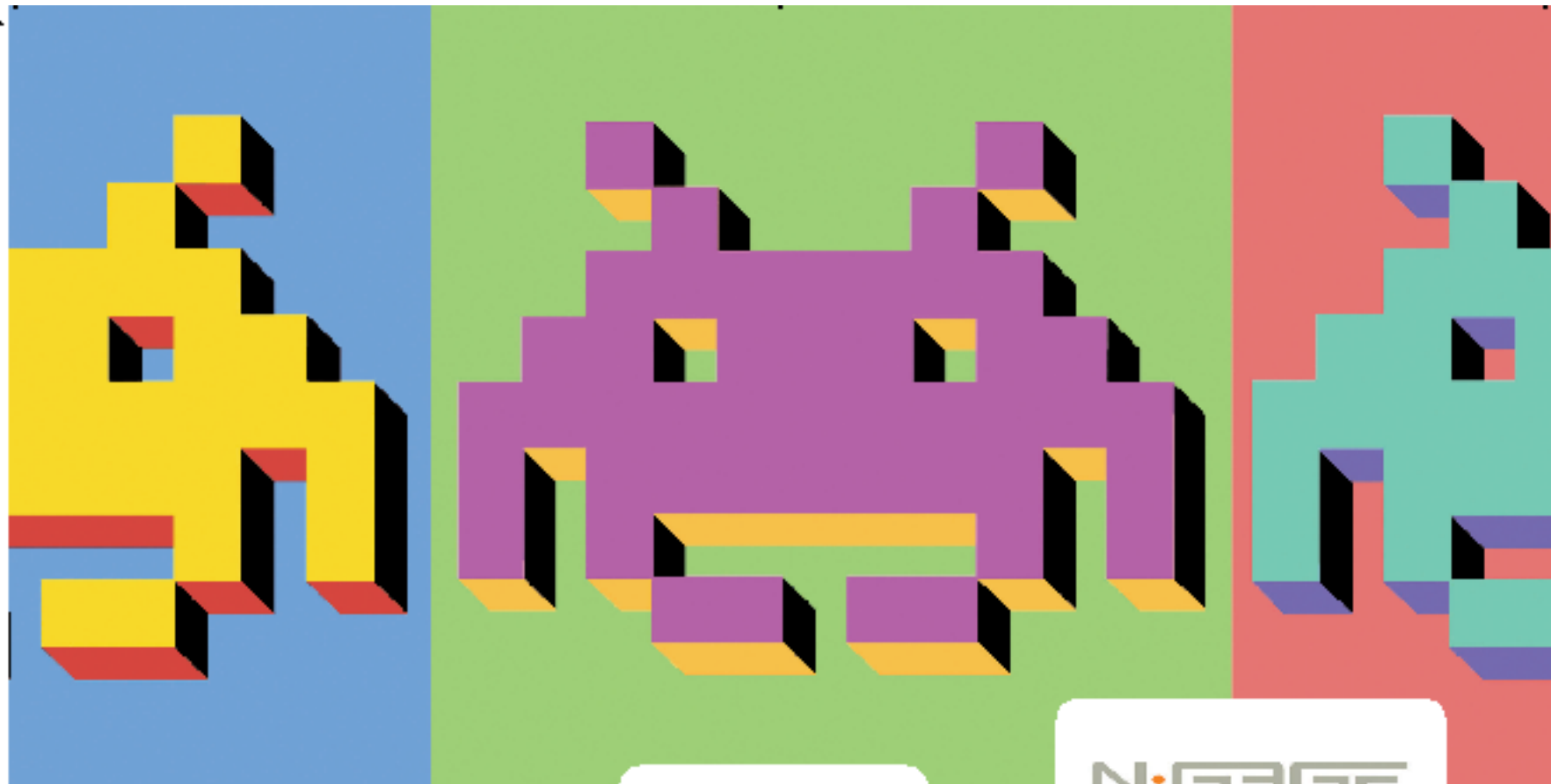
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- * Creator of three top ten PS2 titles
- * Experienced in outsourcing and work-for-hire duties
- * 50 staff-members

£15,000,000 O.N.O.

Sell your studio

Putting your studio on the market shouldn't be game over, says **Nav Sunner** of Pinsent Masons. Here's his guide on how to ensure maximum value should you sell up...

Consolidation shouldn't be seen as a negative for a small developer, and for many a profitable sale of the business is probably something that they have been working towards. While selling your business can be a very positive move, opening up new opportunities and possibilities, it can also prove to be stressful, time consuming and complicated, throwing up commercial and legal issues.

Selling a business isn't like selling a house, and the director's objectives for the sale will have implications on the structure of the deal, the restrictions and liabilities for

the final agreement. Personal objectives are vital and you need to decide your position in the company after the sale. While some may want to simply walk away with no further dealings, a business is an emotional entity, and most want to retain an interest in the company they built up.

PREPARING TO SELL

The first step is to get a true indication of your business' market value. Many businesses in the games industry don't actively seek out a sale, but have been approached by an interested party. In this instance, the valuation is vital. Financial advisors are able to

help in this area, as well as assisting with identifying possible buyers and other details that require specific attention.

The valuation will cover such things as property, equipment, stock, debtors, creditors and goodwill. While it is good to be prepared for any question a potential buyer may have, make sure you do not reveal any confidential information until a non-disclosure agreement has been signed.

Be realistic in your expectations but equally realise value wherever possible by thinking about what a potential purchaser would be looking for. For example, a purchaser may be looking at your studio because of the expertise that you have in a particular genre. The purchaser may be looking to acquire that expertise to expand its product range or strengthen existing depth in that field. If the former, it would be looking for a target which had competitive advantage in the market. This was probably one of the key drivers for the acquisition of Creative Assembly by Sega, for instance, as it gave Sega a strong foothold in the PC strategy gaming genre.

Another reason for a publisher (particularly if it is a public company) to purchase a developer is to increase the publisher's net income. Since a public company's performance is measured by growth and profitability, if, by acquiring your company, it can increase net profits the publisher will be rewarded by their shareholders and the City. The higher the perceived value, the higher their share price.

This may have been an important consideration when Microsoft was looking to buy Rare, which had sales at the time averaging 1.4 million units per title and total units sold since the founding of the company reaching more than 90 million units.

However, as we all know the

real value that a publisher will be looking for is in the IP.

PRACTICAL STEPS

Before going to market, sellers should focus on the quality and level of legal protection of their IP assets, ideally well in advance of any transaction. This includes making sure that all relevant IP registrations are up-to-date and paid for and documentation evidencing ownership or licence to use third party intellectual property is available and in an accessible form. The risk for businesses without this evidence could result in potential buyers discounting the asking price sought.

FREEDOM TO OPERATE

IP due diligence is an essential part of determining the value of the business assets. This process includes a 'freedom-to-operate' analysis, where the potential buyer needs to determine whether it can make, use, or sell the selling business' products without infringing the IP rights of any third party. This analysis requires an IP clearance search for a variety of things including unexpired patents and published applications. Also it is vital to check for pending or threatened litigation, especially where the target business has been accused of infringement.

RIGHT TO EXCLUDE

'Right-to-exclude' analysis is also carried out. It will be important for the buyer to know if there are rights to

"The real value that a publisher will be looking for is in the intellectual property. Before going to market sellers should focus on the quality and level of legal protection of their IP assets..."

THE UK TREASURE TRAIL

Recently Microsoft, THQ and Sega have acquired further games studios – all of them based in the UK.

Sega acquired Sports Interactive, THQ bought Juice Games and Microsoft obtained Lionhead Studios.

It's not surprising to see that once again, IP ownership was a key factor in these acquisitions.

By purchasing Sports

Interactive, Sega gained ownership of the *Football Manager* brand (just a year after buying Creative Assembly and its *Total War* IP), whilst Microsoft added *Fable* through its acquisition and THQ took full ownership of *Juiced*.

All of these franchises have been million plus unit sellers.



exclude others from competing with a particular product or technology. This analysis involves a review of the business' IP portfolio, where a list of the company's IP will be provided, along with a separate analysis by actually reviewing the IP files and by searching patent and trademark databases, possibly throughout the world.

PREPARATION

Preparation is vital – and you need to be ready for any possible question that a buyer will ask. Preparation has its benefits, not least because it

makes your business look professional and well organised. Being ready for questions quickly will save you time and minimise the time spent in the overall sales process, which needless to say, is a distraction from the normal running of the business. You need to think about all your IP arrangements, sometimes referred to as 'Licences In' (third party IP that you have licenced for use in your products and in your business) and 'Licences Out' (licenses that you have granted to third parties to use and exploit your products or technology).

SHARES V. ASSETS:

There are two ways for your business to be acquired - by selling the shareholders' shares in your company or by selling the assets of the business, and there are distinct differences between the two:

- For a share sale, the selling company passes to the buyer all its assets and liabilities. However, for an asset sale, the

MINIBIO



Nav Sunner is a Senior Associate at international law firm Pinsent Masons, where he advises on IP, commercial, media and IT

legal issues. Prior to that he spent six years at Codemasters, where he was head of legal.

buyer may try to pick out the assets it wants and leave other liabilities with the seller.

- For an asset sale, the assets have to be actually transferred to the buyer and this may require the consent of third parties. For example, customer contracts may not be transferable without the consent of the customer, and the transfer of a leasehold property may require the consent of the landlord – the property lease must be checked at an early stage. Whether consent is ultimately granted by third parties may, in some part, depend on the financial strength of the buyer.

With regards to tax, for a share-based sale, the company's tax liability is passed to the buyer, whereas on an asset-based sale, the tax liabilities of the selling business normally remain with the seller. If the company has tax losses, prospective buyers may want to purchase shares instead of the assets, thus setting off tax losses against the buying company's profits.

A majority of sellers prefer to sell their shares, whereas buyers prefer to buy assets.

Thus there are fundamental differences, with compromises always needed. The ultimate decision will depend on the bargaining strengths and the nature of the involved business.

THE LEGAL PROCESS

Prior to the heads of agreement, there may be a need to make some provisions legally binding. The selling

SALES ADVICE

- Protect your information. Ensure you have put in place a watertight confidentiality agreement before revealing any sensitive information.
- Financial standing: seek evidence from the buyer that it has the capability to fund the transaction at an early stage (i.e. bank funding offer).
- Be prepared for the hard questions, such as being aware of any third party patents that cover your products.
- Do your homework. Conduct searches to identify possible issues.
- Get your housekeeping in order because a major part of IP due diligence will focus on ownership.
- Formulate a positive exit strategy: do you want to retain an ongoing role in the business?
- Culture. In a creative industry it is important for the developer to maintain its work culture and development processes so be upfront about asking how your company will be absorbed into the buyer's company.

process involves the hand-over of many sensitive items of information, so make sure to keep this information confidential; confidentiality agreements need to be signed before proceeding with negotiations. A seller may also request that the buyer pays a deposit to cover costs if they pull out. Additionally, the buyer may want a period of exclusivity during which the seller must not negotiate with another party, and must pay the buyer's costs if they do.

After a deal has been agreed in principle, lawyers move in to draw up a heads of agreement. This agreement will outline the main issues, the deal structure, price and times, while acting as a guideline for the entire transaction. Apart from the areas which deal with

confidentiality and exclusivity, the heads of agreement will not normally be a legally binding document. However, the signing of the agreement will demonstrate both parties' commitment to the process and evidence of preliminary agreement on the main deal terms and structure.

Once this heads of agreement has been finalised, the buyer will proceed to carry out an investigation of the business and the lawyers will prepare the sale agreement.

When the documents have been finalised – after many weeks of due diligence and negotiations, the completion of contracts takes place. Upon completion, the buyer will transfer the agreed price and the seller will transfer the agreed assets or shares.

The length of the process can vary considerably between transactions, but you should normally allow for at least six weeks from the signing of the heads of agreement until completion.

COMMUNICATION

Communication is vital during this process, and you don't want your staff finding out about your intentions to sell the business on the grapevine, as this will affect their morale and motivation. You need to

agree a time and a process to tell staff and to clearly inform them what this means for them.

If you are selling assets, as opposed to shares, you have to formally consult with employees before completion, and you may not want to start this process until exchange of contracts to maintain confidentiality.

SHARE/BUSINESS PURCHASE AGREEMENT

The business purchase agreement is probably the most important document in the transaction. This document will set out the key commercial terms that have been agreed between the parties, including the conditions of the sale, the price and payment, completion accounts, apportionments, book debts, property rights, staff and restrictive covenants and warranties requested by the buyer.

There can be many sticking points in each of these areas. As an example, the buyer may want the final price to depend on the value of specific assets, such as IP, which fluctuate over time. These will be valued on completion using 'completion accounts', with the final agreed price being adjusted corresponding to the change in value which the parties have agreed prior to closure.

With a share sale, employees remain employed with the company after acquisition; with an asset-based transaction, the TUPE regulations require that employees' contracts are transferred from the seller to the buyer on completion. Sellers can't dismiss employees immediately before completion, and they must consult employees about the sale. Advice should be taken in this area at an early stage.

While there are numerous benefits of selling your business, a successful transaction relies on good legal and financial support and appropriate preparation. This will help ensure you get the maximum market value for your business and benefit in the long-term.

■ www.pinsentmasons.com

“Communication is vital during this process, and you don't want your staff finding out about your intentions to sell on the grapevine as this will affect their morale...”

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My client is a top game developer who is currently looking for a number of experienced artists and animators. They are looking for UK and Ireland based talent with strong financial backing. The role is a full time position and is a great opportunity for someone to step up to a more challenging role.

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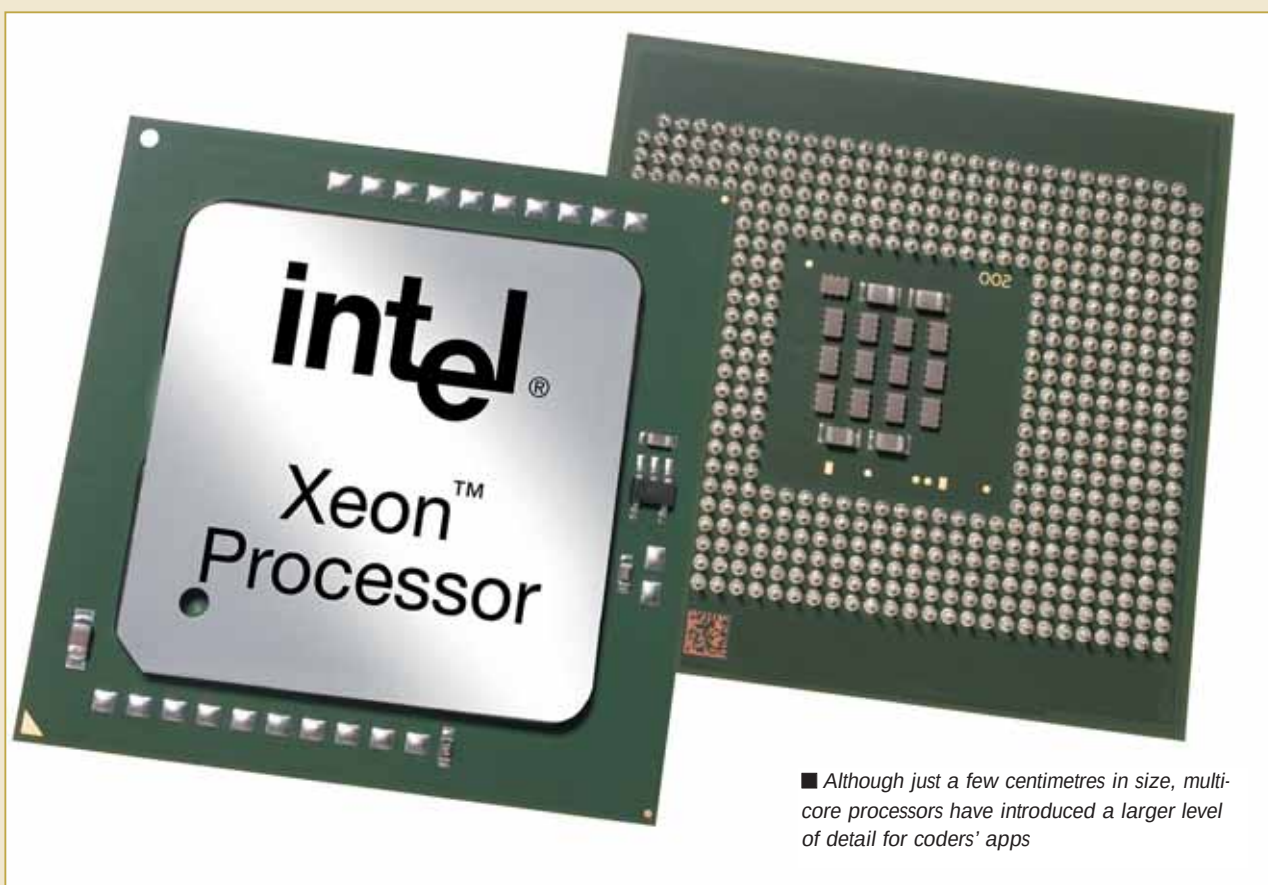
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Tying up loose threads

The multi-core processor switch is bringing new challenges – and new demands to have code perfected. Intel's **Jonathan Story**, **Holger Gruen** and **Lavent Akyil** detail the best practices needed to fine-tune your programming...



■ Although just a few centimetres in size, multi-core processors have introduced a larger level of detail for coders' apps

The introduction of multi-core processors started a new era not only for consumers but also for software developers. Multi-core processors are replacing single core processors and start spanning from high-end servers to desktops and then laptops. The expectation is that multi-core processors will sooner or later become the norm.

The increase in capabilities and processing power while bringing new opportunities to consumers will put new demands on developers, who must create products that efficiently use the multi-core processors. The idea of using concurrent processors to

increase overall software performance is not new, however most games and applications are still single-threaded. Converting a serial code base to thread-safe code is not an easy task. It usually has an impact on development time, and results in increasing the complexity of the existing serial application.

The generic issues can be summarised as follows:

- Increased complexity (data restructuring, use of synchronisation)
- Increased testing and debugging activities (race conditions, deadlock)
- Performance (requires optimisation and tuning)

Despite these challenges, the benefits of multi-core systems to consumers and developers are undeniable; yet how can developers, especially game developers, take advantage of these benefits while overcoming the roadblocks mentioned above?

THREADING TOGETHER

Creating a multi-threaded game engine is a challenging task. Various game tasks like rendering, AI computations, physics or collision detection rely on the availability of results from other game tasks. The availability of these results can easily be guaranteed if game code runs sequentially. If game engine developers

choose to run several game tasks in parallel (task level parallelism), it can be very complicated to have required results from other tasks available in time. The synchronisation necessary to ensure this may very well limit how many tasks can be run simultaneously. Even with enough hardware threads to do a full functional decomposition it is, therefore, not guaranteed that this method will use processor resources in an optimal way.

Functional decomposition can be used to great effect in a game engine, however there are often complications and undesirable side effects. One scenario is that the rendering

system draws the simulation results of the last tick while the current step is done in parallel. The side effect would in this case be a one-frame lag.

We can go even further with task level parallelism, for example the asynchronous and distributed system of a massively multiplayer online game server. Mapping this design to a local multi-core system avoids networking lags. Unfortunately we would see even more side effects that come from the extrapolating of values.

Depending on the kind of game, this might be acceptable or not.

It should be noted that the implementation of an asynchronous task level

result in code which performs way too much synchronisation.

To be as efficient and as scalable as possible your game engine should ideally be implemented using a mixture of task level and data level parallelism. The resulting development effort will create multi-threaded code that needs to run on a range of CPU and core configurations. It's hard to design and it's very hard to prove that this code runs without any errors due to concurrency issues. For this reason, Intel has created a set of tools that helps developers analyse and develop multi-threaded code.

The methodology we'll

"To be as efficient and as scalable as possible your game engine should ideally be implemented using a mixture of task level and data level parallelism..."

decomposition as just described is a very complex effort.

If you think about how many functional tasks you can run in parallel in a typical game, you will find that this number is pretty low. Running your functionally parallelised game engine on a future CPU with a larger number of cores will not take advantage of all the cores, and thus doesn't scale. To rectify this you want to add as much data level parallelism as possible to each game task.

Data level parallelism means, for example, running animation code or path finding code on several game characters in parallel. It also means if done right that your code runs faster on CPUs with more cores since it can work on more entities at once. That is, if you have enough things to do in parallel to really use every core. The downside of data level parallelism is not every algorithm lends itself to this kind of parallelism.

Collision detection, for example, will result in very different computation times when run on different game entities. In order to avoid one core sitting idle, you might need to add complex code that performs load balancing. If not implemented right, this will

follow is given in Figure 1, which also explains which of our in-house Intel software tools we have used at each stage.

ANALYSIS

Usually the first thing you want to do before optimising your code is to analyse it. Step one is sampling, which allows you to identify the modules, functions, lines of source code and assembly instructions that are consuming the most time that need your attention. System-wide event sampling gives an accurate representation of the software's actual performance with negligible overhead (typically <1 per cent overhead). It gathers CPU snapshots to identify problems such as cache misses and branch mispredictions. On the other hand, Call Graph profiling can be used to determine the regions of potential parallelism and to identify the critical path while offering a graphical display of calling sequences, precise call counts. (See Figs 2 and 3.)

DESIGNING AND DEBUGGING MULTITHREADED APPLICATIONS

We know that threads can be created manually, by compiler directives or by other tools.

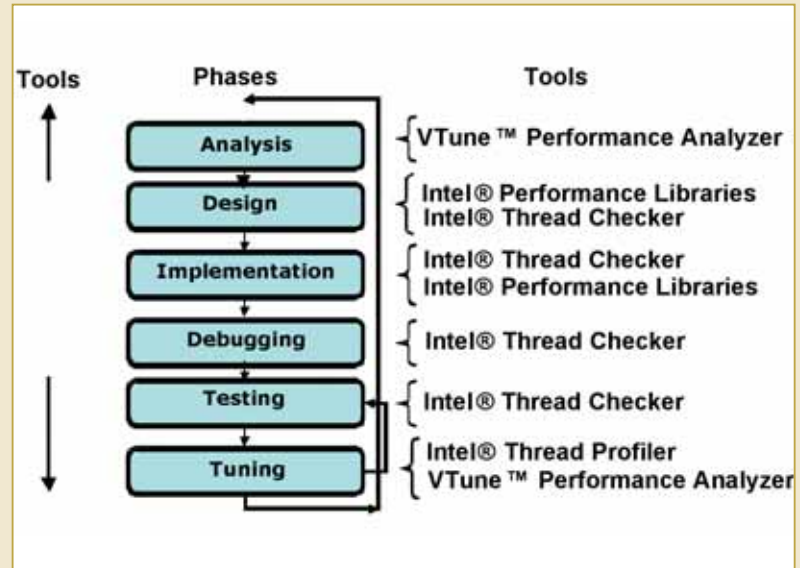


Figure 1 – Methodology followed for analysing and tuning your code base

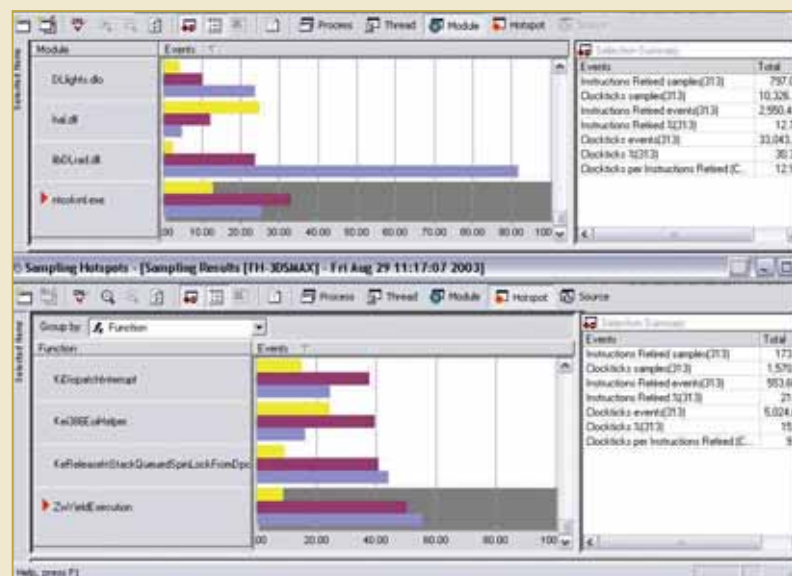


Figure 2 – VTune analyser showing hotspots within system modules

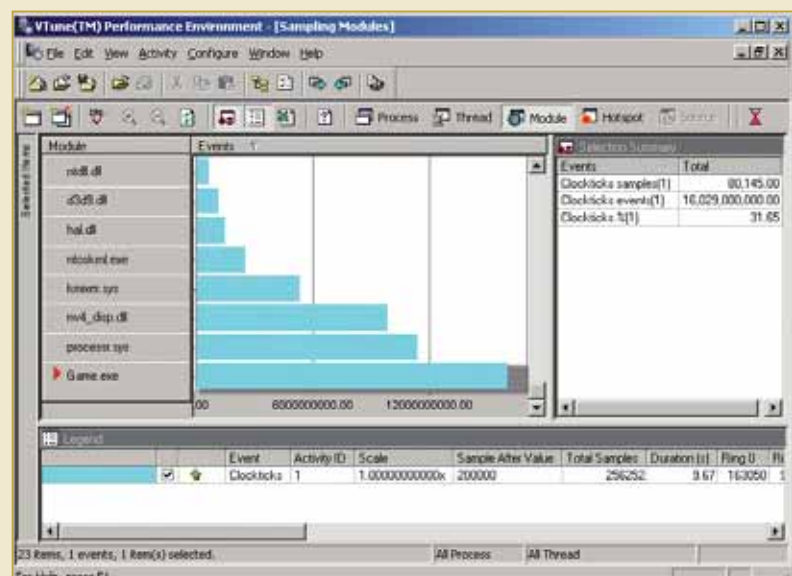


Figure 3 – VTune analyser showing the CPU usage of a game in the context of the full system

MINIBIO



Jonathan Story is an application engineer working within the Consumer Software Enabling team at Intel in Munich. The main focus of his work is supporting game developers in Europe. With around ten years experience in the games industry, Jonathan has a wealth of programming knowledge in the fields of 3D, optimisation and multi-threading.



Holger Gruen is also an application engineer working within the Consumer Software Enabling team at Intel. He has worked on games technology and simulation software for over 18 years. His job at Intel is to support game developers to use multi-core CPUs.



Levent Akyil is a Technical Consultant Engineer within the Software Solution Group at Intel. He currently provides technical support for Intel VTune Performance Analyzer in Europe, Middle East and Africa, and works with internal and external customers. He joined Intel in 2001 working for Digital Enterprise Group.

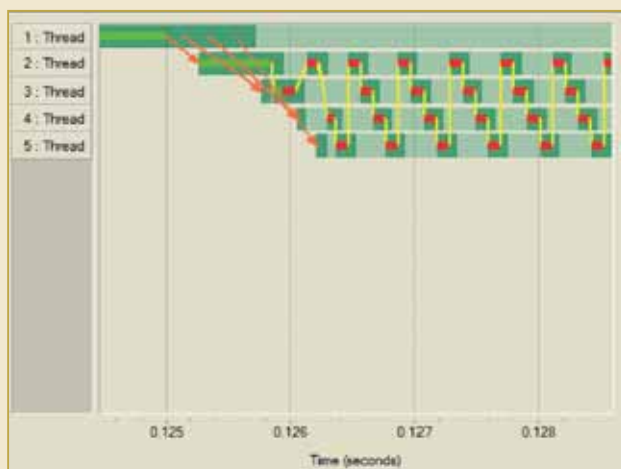
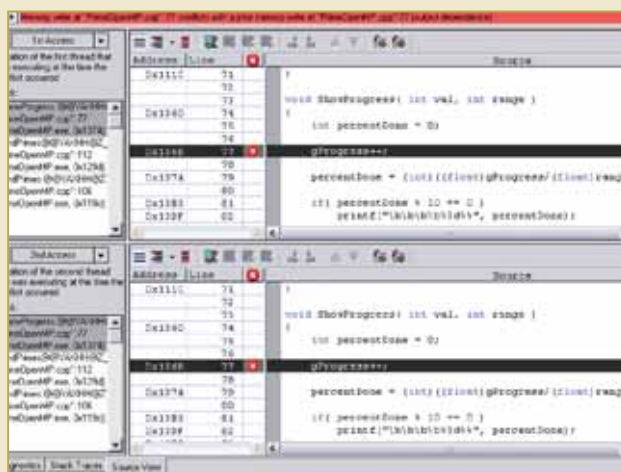
In any case, the code has to be tested for any race conditions, dead lock and synchronisation issues.

Here at Intel we have produced a sample application that shows off how a dual-core processor can be used to run physics in parallel with rendering, and we will see how the threading tools were used to great effect in identifying and solving bugs and performance problems.

From Amdahl's law we know that it's the serial portion of a programme that limits its parallel speed-up, so with two definable CPU intensive tasks, ideally they should be processed together. A very common technique for task level parallelism is the pipelined threading paradigm. Put simply, the physics computation for the next frame is performed in parallel to the rendering of the current frame, which means that the physics is always one frame out of sync from the rendering. This doesn't tend to cause an issue for games with higher frame rates, but could become noticeable at the lower end of the spectrum. In order to process the physics in this way it is necessary to double buffer the physics data, which obviously costs some extra memory, but that always seems to be the trade off.

One of the most common ways to manage threads in an application is to make use of a thread pool. In short, a thread pool creates a limited number of worker threads on initialisation, and provides an interface for assigning user tasks to them.

The Microsoft Windows Application Programming Interface (API) provides a thread pool which you can access through the function `QueueUserWorkItem`, and this is a good way to start multi-threading, without having to get your hands dirty. At Intel we have written our own thread pool, which has the advantage of allowing the binding of tasks to an enumeration of logical CPU's. CPU enumeration has become so important over the last year because of the wide



■ Top: Figure 4 – The Intel Thread Checker showing a race condition

■ Bottom: Figure 5 – The Intel Thread Profiler showing thread synchronisation behavior

variety of systems available to the consumer.

During the development of the physics application and the associated thread pool, there were two occasions where the tools became invaluable.

When the application had reached the point where it was functionally complete, a new problem came to the surface. Once in a while, a rendering error would occur, such that an object in the scene would suddenly appear from nowhere. As it turned out the problem didn't manifest itself on the machine it was developed on, and then occurred repeatedly on a much faster system, which as we will see, turned out to be a clue. This issue had all the hallmarks of a classic threading bug known as a race condition. A race condition can occur when some piece of data is accessed in an unprotected way by a thread. Because the timing and ordering of thread execution is

handled by the operating system kernel scheduler, there is no way of guaranteeing what state data is in, when access to it is not properly synchronised. In this case, new objects were being added to the scene on the physics thread via a Standard Template Library (STL) vector, at the same time the main thread was rendering the scene by parsing the very same vector. This is why the speed of the system was critical in showing that the problem existed. (See Figure 4 for an example of our in-house thread checker showing these problems.)

TUNING

With the performance in the application now really starting to shine, it was decided to test the performance of the thread pool, as compared to the standard Windows implementation. We discovered that the observer thread belonging to the thread pool, which monitors the worker threads and assigns tasks to them as necessary, was bound to the same CPU as the main thread of the application. The main thread was extremely active, as it was responsible for the rendering of the scene, and because of this the observer thread could spend a lot of time blocked. With the observer thread blocked, it couldn't assign the physics task to a worker thread. Simply removing the binding of the observer thread to CPU 1 solved the problem.

FINE-TUNED FUTURE

Here at Intel we're expecting to sell 60 million dual-core chips this year, and also expect to ship our first processors with four cores in early 2007. Plus, the console space has recently gone multi-core. So the challenges in developing multithreaded games are undeniable and have become all the more important to address. When development is cross platform, it is quite possible that tracking and fixing thread related bugs on the PC will fix or highlight potential issues on other platforms.

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Jungle spreads to Europe

A new audio company is hoping to tempt studios to outsource its sound production to Israel.

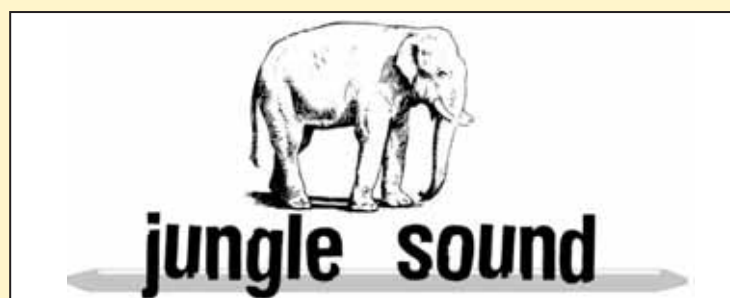
Jungle Sound is opening a UK office in London, with staff boasting previous work on over 35 games (including Guerilla's *Killzone* and *Shellshock*), with the plan being to broker deals for audio production at Jungle's facility in Israel.

Jungle's set-up includes a variety of HD tools, a team of trained composers and dedicated engineers. The company also offers lip-syncing and the like for English and other European languages and Hebrew.

The biggest draw, says Jungle of its business, is of course cost. Outsourcing your audio requirements to Israel can save you 30 to 50 per cent of the rates charged in the UK and Europe, says Jungle, thanks to lower hourly studio rates in Tel Aviv and more competitive salaries in Israel.

The UK office can be contacted via JungleSoundEurope@aol.com

■ www.junglesound.co.il

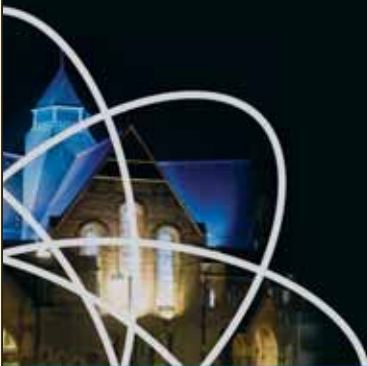


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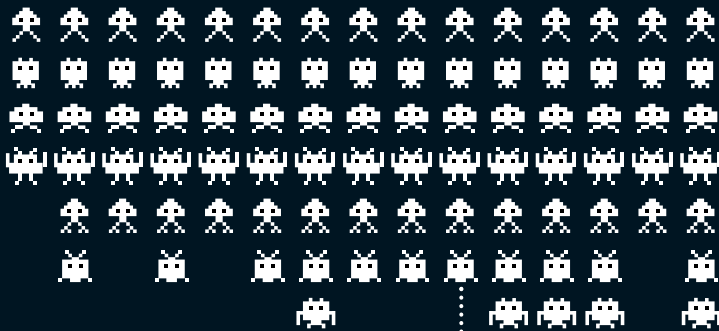
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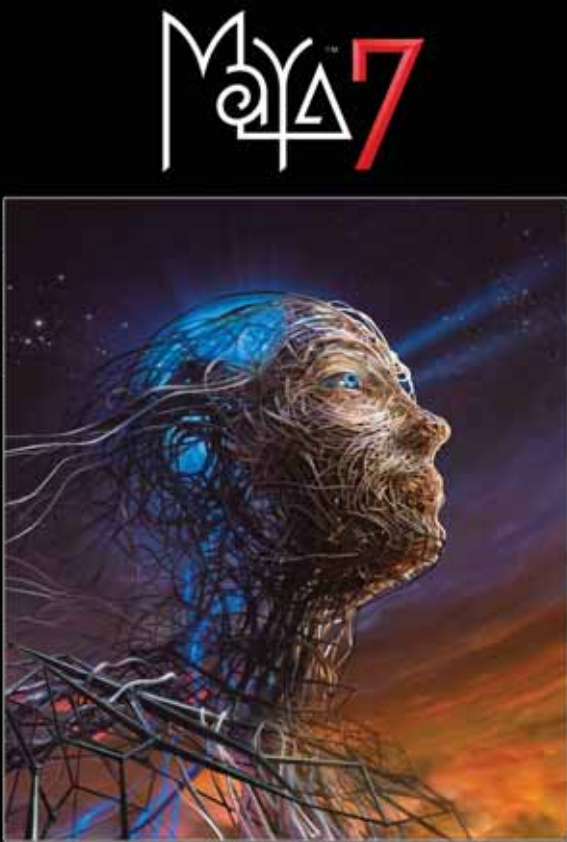
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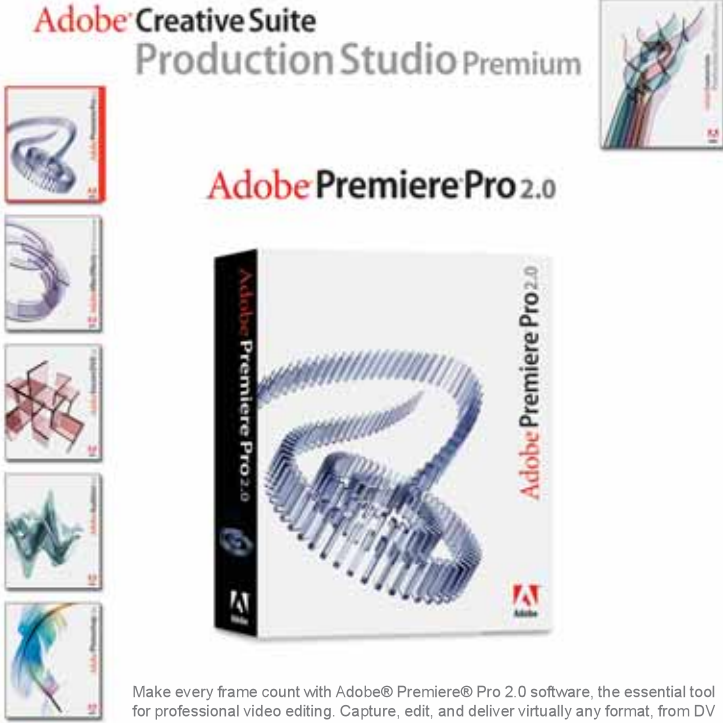
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Creative influx



The ranks are swelling at **The Creative Assembly**, where ten new staff have joined the payroll at the Sega-owned studio.

There's a number of new signings of staff with experience at a variety of European studios: Bartek Paul joins from Polish studio Techland as a new level scripter, while James Russell joins as an artist from Splash Damage where he previously was a level designer.

Reka Sugar has left Zeitguyz in Denmark to join as a 3D graphic artist.

Elsewhere, Joss Hathaway joins as level scripter – he previously worked for Argonaut.

Another level scripter, Richard Aldridge arrives from Electronic Arts where he was QA Team Lead, while level scripter Alex Taylor comes from the mod community where he was a level designer.

Former Activision producer Lara Sweeney joins as a producer, and Ramona Wilhelmsson, the newest addition to The Creative Assembly, becomes an animator, coming from Lionhead Studios.

Two graduates round out the new staff, with James Marijeanne joining as animator after completing his Bachelor of Arts with Honours in Animation, and Computer Science graduate Chris Waine taking a role as programmer.

■ www.creative-assembly.co.uk



Sega's **Driving Studio**, meanwhile, has seen a number of new team members take up key roles as work progresses on its first game, a PlayStation 3 version of *Sega Rally*.

Richard Wilson, a director/developer from Moose Communications joins as games programmer.

David Butler, meanwhile, comes from Acclaim Studios where he was environment artist – he takes up a similar position with the Driving Studio.

Fred O'Rourke has joined as senior games programmer, hailing from Awesome Studios where he was Lead Programmer.

Andrew Wood joins as motorsport licensing manager, and the team has also scored two former Codemasters' staff: Daire Stockdale whose new role with Sega Driving Studio is as tools programmer, and Adam Wilkinson who was a lead artist at Codemasters and joins Sega as artist.

■ www.sega.co.uk

Developer-representation agency **ISM** has welcomed a new senior agent, with Francois Masciopinto joining to drive forward the company's activity in Europe.

Masciopinto previously worked at Atari, where he was director of A&R and business development. At ISM he will look to sign studios to the company's books and also help current clients forge deals with publishers around the world.

■ www.ism-agency.com

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Our regular look at the goings-on in games academia and developer training...

Blitz opens doors for teachers

Blitz Games is teaming up with Skillset for a series of open days at its Leamington Spa-based HQ for students and lecturers to find out more about moving on to a career in video games.

Applications have closed for the two student-focused days, on June 16th and July 6th, but the doors are still open for those lecturers and educators interested in going along to the developer's office on July 20th.

The third day was only recently added due to huge interest in the student events, wherein Blitz was offering the chance for 50 students to get a detailed view of work in one of the UK's longest running and biggest independent studios.

"We thought the idea would be popular but are still pleasantly surprised by the incredible demand for the Open Days," said Philip Oliver, CEO and co-founder of Blitz Games, who likened the student-focused side of the open day to a trip to Willy Wonka's chocolate factory but "for students".

"By adding a third day for the educators we hope to be able to work even more closely with them and shed more light on the skills and talents that we look for."

Paula Moses from Skillset, which is supporting the three days, added: "Skillset is very pleased to see this initiative expanded to include an open day for lecturers. Industry engaging with the lecturers responsible for games courses ensures that they can use up to the minute information about the games industry and pass on to their students a realistic sense of what the UK games industry can offer."

The open days will provide visitors with a tour of the studio, views on how mainstream games such as Blitz' upcoming *Reservoir Dogs* (Xbox 360) and *Spongebob Square Pants* (Wii) games are made, with proceedings split into the core disciplines programming, design, art, animation and audio.

■ www.blitzgames.com/OpenDay/



Game on for GamesEdu

More details have been confirmed for the GamesEdu day taking place in Brighton after the Develop In Brighton conference.

The day-long event will explore the key issues facing games educators and their students and is supported by Abertay University, The University of Derby and the National Centre for Computer Animation at The University of Bournemouth, while representatives from EA, Activision, Codemasters, SCI/Eidos, Blitz and Climax all taking part.

Taking place on July 14th and costing £110 to attend, the event kicks off with two industry masterclass keynotes from EA and Climax, and is followed by an open debate chaired by *Develop*.

In the afternoon the event, which is put together by Pixel Lab with further support from Skillset, will also play host to a three-track set of Skillset sessions and workshops focusing on the art, programming plus business and design facets of games education.

Proceedings end with a session looking at industry links and another offering a US-based view on games courses.

Kate O'Conner, Skillset's executive director – policy and development and deputy chief executive commented: "GamesEdu will help the academic community understand why engagement is important and how industry involvement and industry focused tuition benefits students, employers and universities alike."

"By providing an open space for discussion GamesEdu will help develop the quality of this accreditation programme and encourage further interaction between Education Institutions and Industry."

■ www.gamesedu.co.uk

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LETTERS

IT IS POSSIBLE TO BE INDEPENDENT...

About five years ago my disbelief at Peter Molyneux's assertion that 'all games cost at least a million dollars' led me to write a letter to *Develop* to dispute this opinion. I can see nothing has changed in his view of independent gaming in those five years, even after I spent two of them working for him!

His predictions of doom for any potential new studio without million-dollar-backing are even less true now than five years ago.

Broadband penetration is higher, the consoles are embracing downloadable small games, the PC downloadable market is booming, and finally the games press are following their readers into exploring the indie games market.

The only two institutions still in denial about indie gaming are the publishers, who find themselves instantly cut out of their prime middle-man position by direct sales, and the big bloated developers terrified of losing their key staff to new energetic start-ups. What better way to ensure your staff stay in their cubicles and work through crunch than to constantly warn them of the certainty of failure as a start-up?

My advice to anyone thinking of going it alone is to go for it. There has never been a more welcoming market for small truly independent gaming.

Cliff Harris
Positech Games
www.positech.co.uk

A JOBLESS DEVELOPER WRITES...

I was amused and somewhat infuriated to see the article in *Develop* 61 from a development company's HR point of view, telling tales of bad candidates and giving tips on how to conduct yourself when applying and interviewing for a job. It's high time, I thought, that these companies start following a few basic rules themselves. So here are a few suggestions based on recent experiences...

1. Have the decency to reply to *all* job applicants. There's no excuse for not doing this, it's just common courtesy. Not even the old excuses of expensive postage and lack of time applies nowadays - what applicant doesn't include an email address? Even a standard response stating their application was not successful will suffice.

2. When advertising jobs, make the salary clear. Note that writing 'Competitive', 'DOE', 'Good', 'Excellent' or 'Negotiable' is utterly meaningless. Even if the salary is dependent on the person's experience (which I would hope it would be), there must be a salary range that the company doesn't expect to go below and won't go above.

3. Write a full (i.e. detailed) job description and supply it to all applicants. Surely you know what the job entails, right? If you don't, how can you select the right person? Lack of time to write it up shouldn't be the issue as there should be someone in the company whose job it is to do this kind of thing i.e. the role's manager.

4. Do not prejudice against age. Before you shake your head and deny that happens in

your company, take a minute to do a mental survey and count exactly how many developers you have over 45 years-old. Now divide that by discipline: how many are non programmers? Isn't it odd how few older developers you employ given how each job you advertise has 'experienced' as a requirement?

5. Do not prejudice against sex. Following the above exercise, count how many female developers you have. Don't worry, it won't take long.

6. Don't use stupid personality tests. Or horoscopes, lunar phases, voodoo or dice come to that.

7. Certainly don't use stupid (i.e. any) personality tests and then tell the candidate it won't be used in making the final decision. What's the bloody point of doing them, then? If you must use them, have the guts to tell the interviewer to their face that you don't believe you have the skill and experience to select the right candidate without it.

8. Judge applicants by their abilities, not paper qualifications. So what if someone's got a degree - if he can't demonstrate the ability to quickly knock up a solid bit of code to order, what use is he?

9. When hiring a new producer, don't assume someone from QA is more qualified than someone who has worked in development.

And don't get me started on games industry agencies...

Anonymous

Got something say? Send your comments to:
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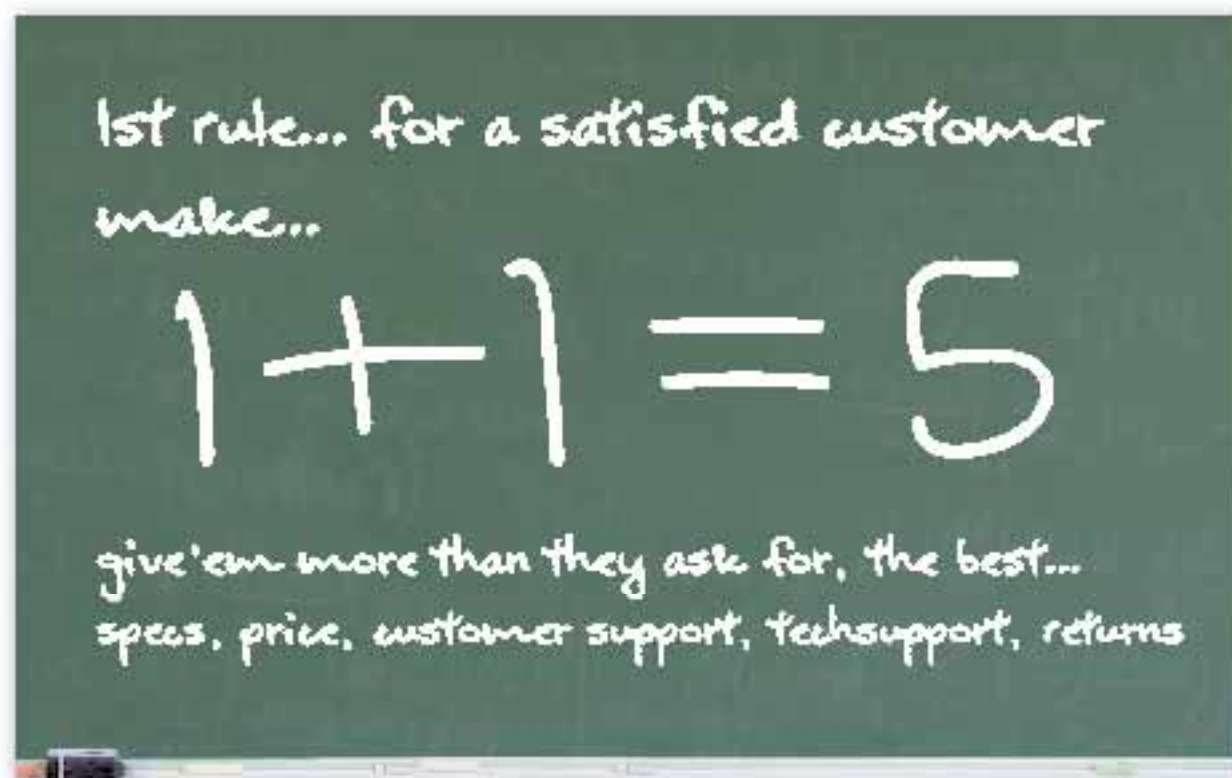
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